

OCTOBER 4, 1941  
OCT 7 1941

# Railway Age

*Founded in 1856*



HERE'S A NEW CORROSION PROBLEM WITH AN OLD ANSWER

## BYERS WROUGHT IRON

As Diesel trains are put in service, railroads are faced with the job of providing fueling facilities . . . and of combating a new set of corrosive conditions. The Southern Railway Company installations are of particular interest, because they were designed after careful investigation and study of existing facilities on other lines. Great stress was placed on insuring cleanliness of oil, and dependability of service. The Danville, Va., fuel station illustrated is one of many completed or in process. The piping here illustrated is Byers Wrought Iron.

The unusual serviceability of wrought iron in handling oil has been demonstrated conclusively in applications where conditions were much more severe than here. In one case, parallel lines—one genuine wrought iron, the other a low-first-cost material—were laid two miles out to sea, to load oil tankers. After five years the engineer reported "wrought iron line still in excellent condition . . .

TRANSPORTATION LIBRARY

other line has required continuous repairs after being in service only 2 years."

If you are concerned with the design or maintenance of fueling stations, our Engineering Service Department will be glad to give you actual field service reports of wrought iron performance under similar conditions. These records will provide a dependable guide in selecting materials for maximum life and satisfaction.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

**BYERS**  
**GENUINE WROUGHT IRON**

TUBULAR AND HOT ROLLED PRODUCTS  
STEEL TUBULAR PRODUCTS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

# UNIT TRUCK

## SAVES STEEL, TIME AND MONEY

**N**OW, as never before, is the time to buy Unit Trucks for your freight cars. With transportation being taxed to the limit and a shortage of steel prevailing, it will pay you to figure the savings achieved by so doing.

Unit Trucks eliminate 100 parts weighing 300 pounds per car. On a 1,000-car order, this totals 100,000 pieces and a saving of steel for national defense of 150 tons. Multiply this by the total number of cars purchased in 1941, and the entire amount of steel saved would be sufficient to build 750 more cars.

Besides the saving in steel, Unit Trucks assure freedom from truck brake rigging failures, cause brake shoes to wear evenly, increase wheel and bearing life, and greatly reduce cost of operation and repairs of freight cars.

Approved for interchange.

Full information as to licensees authorized to manufacture Unit Trucks will be furnished upon request.

*2mm*  
**UNIT TRUCK CORPORATION**

140 CEDAR STREET

NEW YORK, N. Y.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 111, No. 14.

# Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 111

October 4, 1941

No. 14

Published every Saturday by the Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.

SAMUEL O. DUNN, *Chairman of Board*  
HENRY LEE, *President*  
ROY V. WRIGHT, *Vice-Pres. and Sec.*  
FREDERICK H. THOMPSON, *Vice-Pres.*  
ELMER T. HOWSON, *Vice-Pres.*  
F. C. KOCH, *Vice-Pres.*  
ROBERT E. THAYER, *Vice-Pres.*  
H. A. MORRISON, *Vice-Pres.*  
JOHN T. DEMOTT, *Treas.*

CLEVELAND  
Terminal Tower

WASHINGTON  
1081 National Press Building

SEATTLE  
1038 Henry Building

SAN FRANCISCO  
550 Montgomery Street

LOS ANGELES  
530 West 6th Street

## Editorial Staff

SAMUEL O. DUNN, *Editor*  
ROY V. WRIGHT, *Managing Editor*  
ELMER T. HOWSON, *Western Editor*  
JAMES G. LYNE, *Assistant to Editor*

C. B. PECK  
ALFRED G. OEHLER  
E. L. WOODWARD  
J. H. DUNN  
D. A. STEEL  
R. A. DOSTER  
H. C. WILCOX  
NEAL D. HOWARD  
CHARLES LAYNG  
GEORGE E. BOYD  
WALTER J. TAFT  
M. H. DICK  
JOHN H. KING  
W. H. SCHMIDT  
JOHN S. VREELAND  
C. L. COMBES  
ARTHUR J. MCGINNIS

The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.)

Subscriptions, including 52 regular weekly issues, and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, \$6.00; 2 years, \$10.00; foreign countries, not including daily editions: 1 year, \$8.00; 2 years, \$14.00.

Single copies, 25 cents each.

H. E. McCandless, Circulation Manager, 30 Church St., New York, N. Y.

## In This Issue

### Union Pacific Gets Heaviest Articulated Locomotives . . . . . Page 519

This illustrated article describes the twenty single-expansion articulated locomotives of the 4-8-8-4 type being delivered to the Union Pacific by the American Locomotive Company.

### Carriers Blast Brotherhoods' Wage and Earning Estimates . . . . . 534

Developments during the past week in the hearings on the wage increase demand, being conducted by the Emergency Board in Chicago, are covered in this article.

### T. & T. Section Meets in Cincinnati . . . . . 539

A report of the proceedings, at the twenty-second annual convention of this group—at which the major portion of the discussions dealt with the problem of increasing the capacity of railroad communication systems to meet the requirements of the present emergency.

## EDITORIAL

The Threat of Competition to Railroad Jobs . . . . . 515

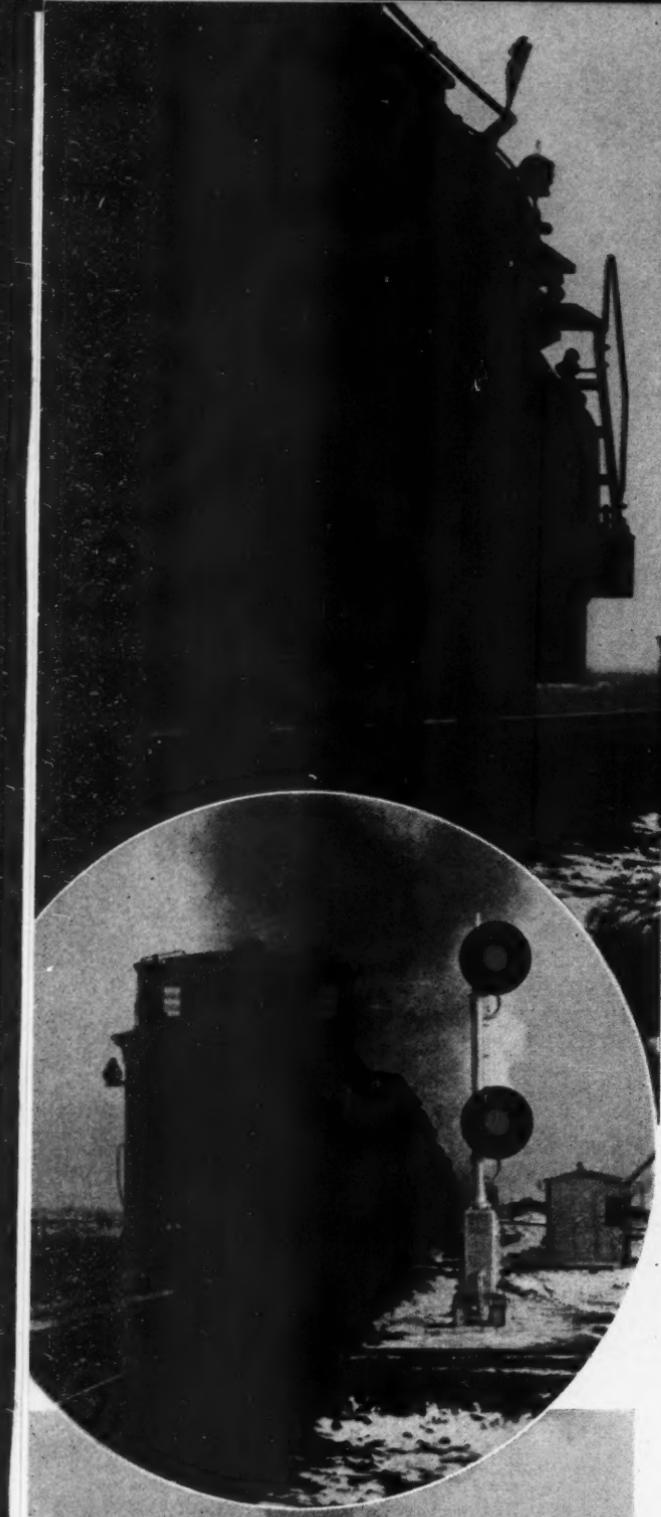
## GENERAL ARTICLES

Traffic Trends and Railroad Credit . . . . . 518  
Union Pacific Gets Heaviest Articulated Locomotives . . . . . 519  
More Power and More Miles from Locomotives . . . . . 527  
Roadmasters Tackle Problems of a New, Intensive Era—Part II . . . . . 529  
Carriers Blast Brotherhoods' Wage and Earning Estimates . . . . . 534  
Economical Boiler Maintenance Urged at Chicago Meeting . . . . . 537  
Personnel and Repair Program Discussed . . . . . 538  
T. & T. Section Meets in Cincinnati . . . . . 539  
Short Lines Hold Annual Meeting . . . . . 542

## NEWS . . . . . 545

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

PRINTED IN U. S. A.



**Enlarge the capacity of the  
Transportation Plant . . .  
STEP UP THE MOVEMENT  
OF FREIGHT CARS!**

The most logical way to enlarge the capacity of the American transportation system is to use more efficiently the equipment now in existence.

"Union" Centralized Traffic Control plays an important part in making freight cars available for additional transportation service both by expediting the movement of cars while actually in road trains and by reducing yard delay awaiting dispatching in trains. Road delay is minimized by the flexibility obtained through movement of trains by authority of signal indications, and by the elimination of unnecessary train stops at meeting and passing points. Yard delay is reduced because trains arrive at terminals sooner and on more dependable schedules with the result that their locomotives and crews are available earlier for the prompt handling of cars ready for departure.

C.T.C. will increase the usefulness of both cars and locomotives. This is important for normal shipments, but is vital for those National Defense materials which must be transported long distances from source to user.



**UNION SWITCH & SIGNAL COMPANY**  
SWISSVALE, PA.

NEW YORK

CHICAGO

ST. LOUIS

SAN FRANCISCO

# The Threat of Competition to Railroad Jobs

No man, singly or as one of a group, can be blamed for getting, within the bounds of ethical behavior, such remuneration for his services or the use of his property as he can induce others to pay. Under conditions of free competition it can never be truly said that any man gets more or less than he deserves, because he gets what other free men are willing to pay him. If he wants more income, all he has to do is to work harder or more skillfully so that he will have a larger quantity of service or a better service to sell. Since, under free competition, there are so many potential customers for a man's services, no one customer can restrict his income by refusing to deal with him. Nor can the man looking for a job hold up the prospective employer unduly when there are other men just as capable who will work for less.

### Railroad Employment Is Monopolized

But when one employer controls most or all of the jobs in a trade or occupation in a locality, free competition has come to an end. It has also disappeared if a labor union for any reason has a monopoly of all the men able to do a certain class of work. Both of these conditions exist to a very large degree on the railroads. A man who knows no work other than railroading has few prospective employers to turn to; and unless workmen under such conditions establish some kind of monopoly of their own with which to meet prospective employers they are at a decided disadvantage in selling their services. That is the justification for unions. A monopoly having most or all of the available jobs bargains on wages with another monopoly which controls all or most of the men available to fill those jobs.

Where a job monopoly and a man monopoly negotiate, we have what is known as "collective bargaining." But the machinery for collective bargaining usually is now set up by the government; and if the government throws its weight into the scales in favor of one side, true collective bargaining is replaced by coercion. D. B. Robertson, president of the Brotherhood of Firemen and Enginemen, recently said in a statement to the press: "We (the labor unions) stand for the government and the government stands for us." If by the "government" Mr. Robertson means the New Deal administration, he is quite correct. No one with any candor, whatever his predilections, would deny that the present administra-

tion has thrown the weight of its favor into the scales in favor of labor organizations in their disputes with industrial managements. So collective bargaining has been largely replaced by union-plus-government coercion of the employer.

Industrial management is not, of course, completely shorn of its power. But it is usually afraid to use the small power that it still has under the law for fear that even more governmental weight will be thrown in against it. The wages paid and the working conditions obtaining in American industry today are, therefore, to only a small degree the handiwork of managements. They are mainly the product of the desires of the dominant labor union officials, with some tempering by government agencies—which, while they are eager to give labor its pound of industrial flesh, sometimes prefer to carve it off an ounce at a time to avoid the risk of having a corpse on their hands to explain to the electorate. But even with the dominance of the combination of unionism and politics, there are limits beyond which the unions may not safely go—a fact which union leaders seem fearful of disclosing to their followers.

### But There Is No Monopoly of Transportation Jobs

For example: If the railroads had a monopoly of transportation—as they do have a monopoly of employment for men whose only skill is in railroad work—then the existing condition of high labor costs which threaten to become still higher might not be so dangerous for the industry and for the future security of its employees. If the country were as exclusively dependent upon the railways for transportation as it was twenty-five years ago, then the carriers could simply add the exactions of the unions (to the extent that the regulatory authorities would permit) to the price of their services. The employees would enlarge their income, railroad owners would neither gain nor lose, and the consuming public would foot the bill. The moral propriety of thus coercing (or hijacking) the public might be questioned; but the success of the process in increasing the incomes of railroad employees unnaturally above those of the rest of the population could not be questioned.

A near-railroad-monopoly in transportation was the condition under which most of the present railway union

leaders served their apprenticeship in their jobs; and, like everybody else, they find it both difficult and unpleasant to adapt themselves to new circumstances. Mr. Robertson is quite critical of "stone age" railway managements—but it is apparent that union leaders have been much slower than managements to recognize the reality of the competition which exists in transportation. From 1923 to 1933 the passenger traffic of the railways (passenger-miles) declined from 38 billion to 16 billion. In 1923 the average rate per passenger-mile was 2.8 cents, but the railroads had reduced this average in 1933 to about 2 cents, and it has since declined to about 1.8 cents—a reduction of 36 per cent. No one would deny that, without this reduction in the rate and without great improvement in the service, the decline in the carriers' passenger patronage would have been much greater than it has actually been. As a matter of fact, the reduced prices and improved service have since 1933 brought a continuing improvement in the railways' passenger traffic—despite constantly growing competition from other forms of transportation.

#### Labor Leaders Less Alert Than R. R. Managers

Such has been the realism and adaptability to new conditions of competition displayed by railway managements—to whom Mr. Robertson has applied the epithet of "stone age." Let us now examine the degree of realism and adaptability to changing conditions displayed by Mr. Robertson and his colleagues among the leaders of organized railway labor. From 1923 to 1933 the number of railway employees declined from 1,857,000 to 971,000, or 48 per cent, and the number of employees thus far this year has averaged only 1,107,000. This decline in employment has been a new condition, arising, apart from the depression, from the ousting of monopoly by competition in transportation. Its significance to the leadership of the railway unions was a precise parallel to that of the situation presented to railway managements by the decline of passenger traffic. But, while the "stone age" managements recognized the competition they were up against, and both reduced the price of the service and improved its quality, in order to halt the decline of traffic, what did the leaders of railway labor do? In 1923 the price of labor per man-hour to the railroads was 61 cents. In 1933 it was 62.9 cents; in 1940 it was 75.1 cents; and, if the unions should be fully successful in their present wage-increase effort, the price of labor per hour would be further increased to \$1.06.

Loss of sales in a competitive market can mean only one thing—that the commodity or service is priced too high in relation to the demand for it in that market. If the railroads had met this condition in their passenger business in the way the leaders of the railway unions have met a similar condition in railroad employment, they would not have reduced their passenger fares from 2.8 cents per mile to 1.8 cents, but would now be exacting a charge of 3.4 cents per passenger-mile; and seeking to increase this to almost 4.9 cents.

How many passengers would the railroads be carrying now if the pricing policy of their "stone age" managements were as unrealistically dominated by their former monopoly thinking as is that of the supposedly enlightened leaders of railway labor? It is argued, of course, that the quality of service given by railroad employees in 1941 is of a much higher grade than it was in 1923. That question is debatable. The "increased productivity" they claim is actually due to a larger investment per employee in better facilities. There is no question whatever, however, that the passenger and freight service which the railroads are affording is of much higher quality than that which they offered in 1923. Yet that improvement in quality has not prevented the necessity of drastically reducing the prices of both passenger and freight service in order to meet intense competition.

#### Misleading Union Members

We cannot bring ourselves to believe that railway union leaders who collaborated in the "Committee-of-Six" report really are no wiser than the unrealistic and monopolistic policies they insist upon in the name of railway employees, in the union press, and especially in their publication "Labor." Rather, we suspect that they are afraid to undertake the difficult task of educating their members into a frame of mind that would squarely face the competitive threat to railway jobs. If one labor leader should summon up the courage and integrity to tell the plain facts to his followers about what they are up against today, because of high railway wages coupled with a burgeoning competition financed out of the public treasury, probably that leader would immediately subject himself to demagogic attack by less-scrupulous colleagues. The unpleasant truth is never popular at the outset; and it is likely that a labor leader who would attempt to tell it would become a martyr. Who wants to risk being thrown out of a good job when, if he can hold on a few years longer, he can retire on a comfortable pension? Let the younger fellows worry about cleaning up the mess that is now in the making.

However, if it be possible thus to excuse the lack of a crusading spirit for the truth on the part of the leaders of railway labor, it is more difficult to explain why they should intentionally deepen misunderstanding. Take, for instance, the cartoon reproduced herewith from the paper "Labor." Its clear intention is to make the railroad employee believe that he is an object of abuse. This subtle effect is achieved by picturing the 1921 employee as happy and lightly laden, while the 1941 fellow is grim and can barely stagger along under the load he is carrying. The 1941 picture leaves out many **essential facts**—for instance, that the 1941 load is being carried, not by railroad employees alone, but by five billion dollars additional capital investment, an increase from \$12,000 to \$25,000 per employee, so that the portion carried by the employee is probably lighter in 1941 than it was in 1921. The picture also omits to

show that the dollar the employee receives in 1941 will buy him at least 10 per cent more than the dollar he got in 1921.

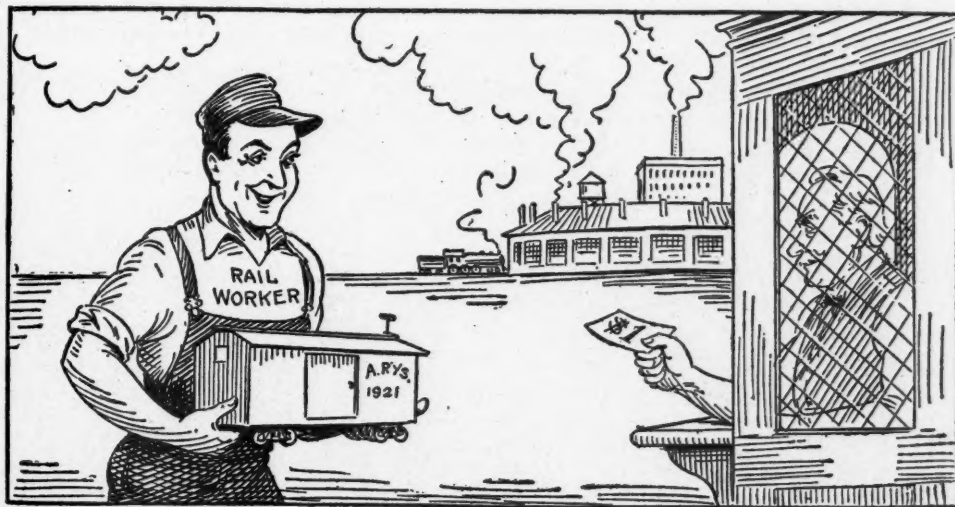
### Truth vs. Emotional Misinformation

The cartoon not only disregards highly pertinent facts, but appeals, not to the reader's intellect, but to one of the basest and most stultifying of all emotions: that of self-pity. No one ever repelled an onslaught of as hard-hearted an enemy as the competition which is undermining the future of railroad employment with self-pity. Facts, no matter how hard, and action which accords with the facts—that is the rampart with which to stand off the attack on railroad jobs. There are many such facts which people with a sense of responsibility for the continuing welfare of railroad employees could and should be giving them. It may be too dangerous politically for timid souls to urge action in accordance with these facts—that is, to suggest that the price of labor be tempered to the condition of the market so as to increase rather than decrease jobs for the long-pull after the present war boom has passed. But it could not be so perilous to begin to let a few of the facts themselves, without interpretation, trickle through to the employees so that they might begin to do their

own thinking about them. If that were done for a while, it might not then be so dangerous for an honest though timorous labor leader to suggest a course of action to meet these conditions realistically.

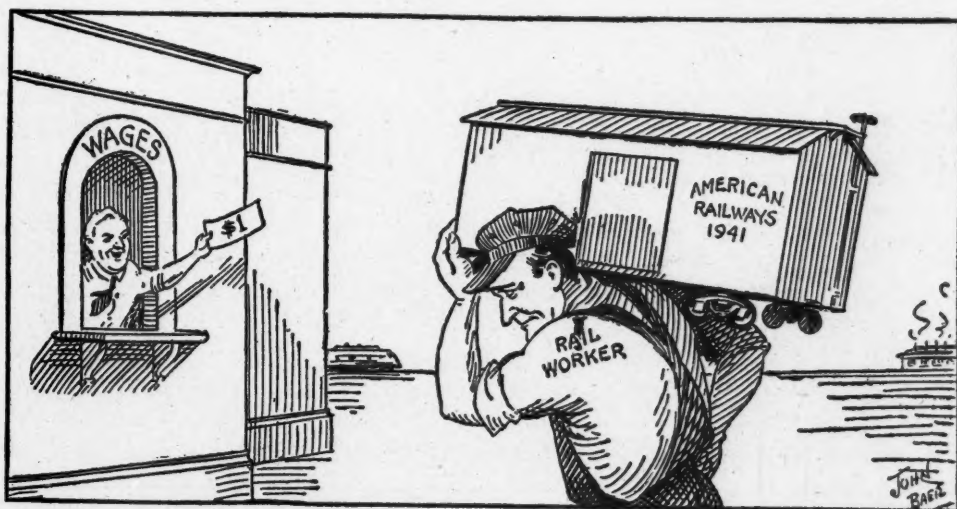
Labor unionism in this country today is riding the crest of the wave of political favor, just as monopolistic capitalism did a generation or more ago. It takes time for public understanding and resentment to arise against being mulcted by a monopoly; but they usually do rise in the end. The resentment is there already, and it is growing. The subsidized competition to which the railways and their employees are subjected is, to some degree, a result—not only of the resentment kindled years ago by the railroads when they had a monopoly; but also against railroad employees who, in many communities in this country, because of their use of their monopoly power, now enjoy a far higher standard of living than most of the customers they serve.

There is no more substantial class of citizens than railroad employees. In most localities and branches of the service they are of pioneer stock—as American as they come. There can be little question, if the truth of the transportation competitive outlook were disclosed to them—little by little so that they might have time to absorb it—they would face the facts and act upon them with courage and realism appropriate to the seriousness



*Informing or  
Misinforming  
R. R. Employees*

Do Cartoons Like This, Reproduced from "Labor," Promote or Seek to Confuse the Employee's Understanding of His Economic Position?



The caption on this cartoon in "Labor" was "Rail Labor's Efficiency!" This reproduction is reduced somewhat in size from the original.

of the situation. Their ancestors were that kind of people, and no doubt they are. It is a great pity that no one who has their ear has yet had the foresight, the

courage, and the sense of stewardship which the situation calls for. "After us the deluge" may in this instance be no mere rhetoric.

## Traffic Trends and Railroad Credit

The following observations by your reporter of traffic trends will complement the analysis, in last week's leading *Railway Age* editorial, of the desirability of economic research by the railroads. Bearing on the likelihood that revolutionary shifts in traffic are in the offing is a statement in the September issue of "Oliphant's Studies in Securities" which reads in part as follows:

"Between 1920 and 1940, the number of private research laboratories in the country increased from 300 to 2,200, according to governmental estimates. They now have 70,000 workers, and \$300,000,000 annual expenditures are budgeted, on the average 2 per cent of sales being appropriated by corporations for the purpose. The company which ignores research now is the exception. Statement issued recently by General Electric, about research conducted in connection with defense equipment, said the 'effort may well give birth to ideas which will shape the course of things to come'. Other alert organizations will recognize this too."

The type of research here mentioned is, of course, the technical variety—dealing directly with physical materials. But shifts in the nature of physical production are the principal origin of shifts in railroad traffic. The fortunes of the railroads may be involved in such changes; so accurate knowledge of them is indispensable to the carriers if they are to plan intelligently for the future. There is another type of technical development which concerns the railroads even more directly—that is, those changes which may cheapen or improve the character of service offered by railroad competitors. Of these the Oliphant bulletin has the following to say:

"The purely mechanical aspect of armament is sure to have much influence on the postwar development of motor cars and trucks and to great degree that of airplanes."

The Oliphant people are interested in investment values. They advise that "in these uncertain times the reliance of the investor should be more than ever on competence of management." The degree of reliance of management on competent research appears, in this concern's opinion, to be one of the criteria by which its competence is to be gaged.

Roger Babson has recently published an article in the newspapers which is extremely bearish on the outlook for the railroads. Some of his observations appear to be exaggerated—nevertheless, true or not, it is unfortunate that a responsible and experienced economic adviser can, with plausibility, make criticisms such as Babson has made. He goes so far as to say that he would today rather purchase the securities of reorganized traction lines in large cities, than those of the railroads. "Airplanes," he observes, "cannot compete with city transportation systems"—the inference being that planes may play hob with the railroads.

How much truth is there in that opinion? There ought to be some facts upon which a reliable estimate could be made. Babson goes on to assert that the *form* of transportation is constantly changing, but that the managements of older forms are slow

to adapt themselves to change. He implies that this observation applies to railroad managements.

Of the unions he says that he has long been of opinion that, however prosperous the railroads become, organized labor will "skim the cream." As wages are raised, freight rates have to be raised, and that leads to a decline in business. This process Babson describes as a "vicious circle," and he sees no prospect that the railroads will escape from it.

It seems to your observer that, as serious as the situation undeniably is, Mr. Babson nevertheless has probably overstated it—just as he appears to underestimate the willingness and ability of railway managers to cope with it. Be that as it may, the railroads are not going to stay in business forever, as private enterprise, unless the faith of the investment community is revived in them. The gloom of the Babson forecast, therefore, loses none of its significance because its words may be stronger than the facts to support them.

If the reality of the railroad situation is less dark than Babson suggests (and many other such investment advisers are but little more cheerful than he), then it would be convenient if the railroads had *systematic and conclusive quantitative facts* about the transportation trends in this country with which to refute such statements.

Competent economic study of the railroads' position would not only enable the carriers to take corrective action, where it would thus be revealed as profitable—but it would also enable them to controvert such statements harmful to railroad credit, if the facts actually are somewhat brighter.

Mr. Babson makes a great point of the fact that most truck lines are owner-managed, whereas railroad managers have a smaller financial stake in the success of their properties. Plenty of examples might be cited from the railroad industry to prove that manager-ownership is not essential to managerial zeal—but the telephone company affords a case where the facts are more generally known. Probably no manager-owners of large business anywhere could show results—to investors, to customers, and to labor—more favorable than those achieved by the management of the phone company. In that company the incentive of professional pride in a job well done appears to have been sufficient to accomplish all that could be expected of owner-management. If that incentive is strong enough to accomplish such results in a corporation the size of the phone company, it seems a little hasty to cite its type of management in other concerns as sufficient grounds for advising investors to "stay out."

Restoration of the confidence of investors in the railroads is still indispensable to future railroad employment, including the jobs of railway managers. Systematic study of economic facts appears to be an unavoidable step to the restoration of this confidence—both as a corrective of unfavorable earnings trends, and to dispel unduly gloomy opinions concerning these trends.

# Union Pacific Gets Heaviest Articulated Locomotives

Single-expansion 4-8-8-4 type distinguished by unusually complete controlled flexibility—Particular attention paid to lubrication

**A**N order of 20 single-expansion, articulated locomotives of the 4-8-8-4 type is being delivered to the Union Pacific by the American Locomotive Company. These locomotives are the largest in size and heaviest in point of total engine and tender weight of any simple articulated eight-coupled locomotives which have been built. The length over couplers is 132 ft. 9 $\frac{7}{8}$  in.; the weight of engine and tender, 1,197,800 lb., and tractive force, 135,375 lb. The locomotives are also notable for many refinements affecting their performance.

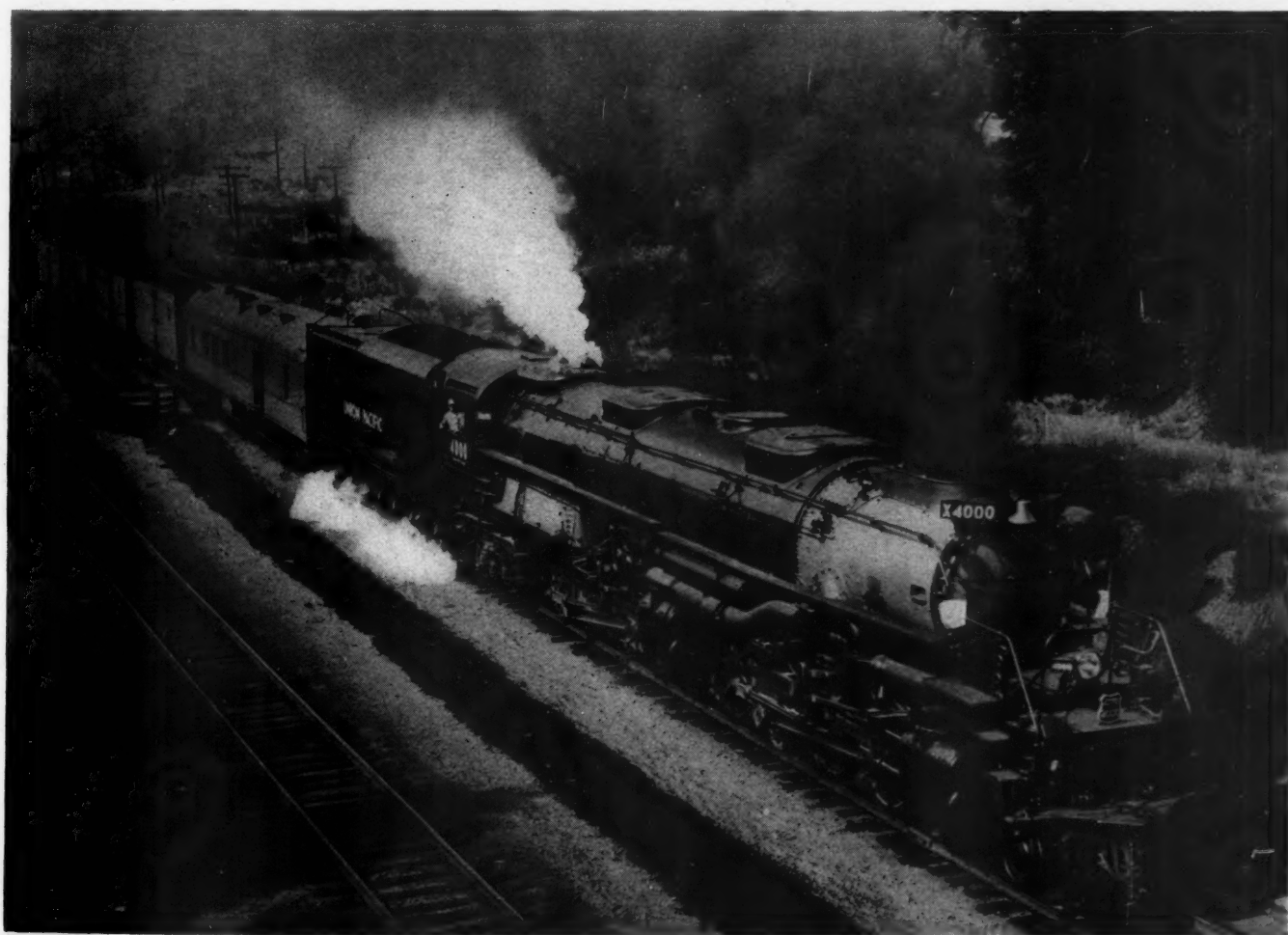
The basic design was developed by engineers of the Research and Mechanical Standards Department of the Union Pacific, under the direction of Otto Jabelmann, vice-president, to originate a locomotive capable of hauling maximum tonnage and maintaining schedules without helper service over the Wahsatch Mountains on a ruling grade of 1.14 per cent between Ogden, Utah, and Green River, Wyo. Results of exhaustive road tests and

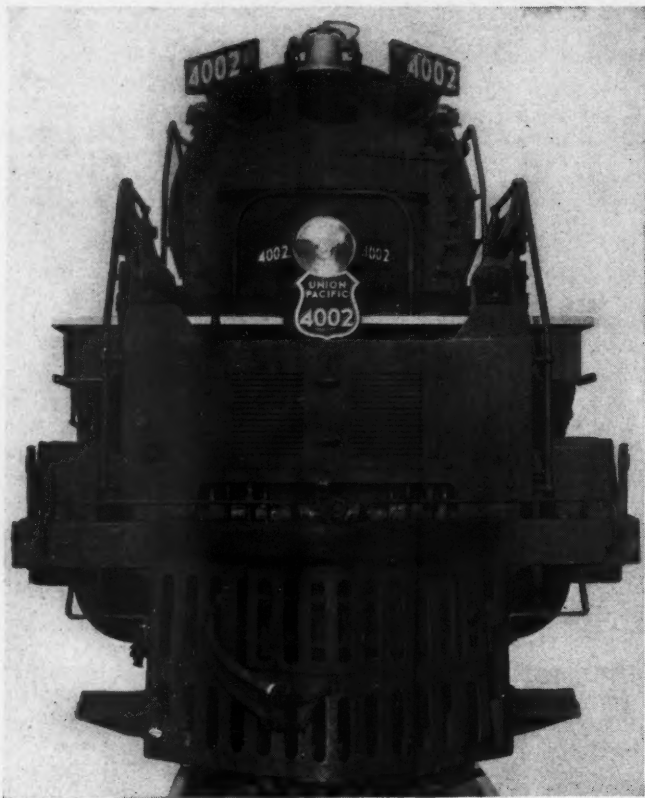
experience gained in operation of other single-expansion articulated locomotives were furnished to the American Locomotive Company which collaborated with the Union Pacific engineers in designing the locomotive.

The new locomotives can operate on any part of the railroad and were designed for speeds up to 80 m. p. h. and to produce maximum power output continuously at 70 m. p. h.

The design of running gear permits great flexibility when moving around curves and at the same time provides for relatively high rigidity when operating on tangent track. The spring-rigging suspension of the locomotive also permits adjustment of the wheels to vertical curves with relatively little distortion of the weight distribution.

The arrangement of the running gear for tracking on curves embodies what is designated by the builder as the "lever principle." This term is applied to a system of





With the Coupler Retracted, the Pilot Surface is Smooth and Unobstructed

lateral-motion control and spring-rigging suspension, the function of which is to fit all wheels of the locomotives to the rails on curves with maximum freedom from binding and to adjust the wheels to vertical curves encountered with changes of grade with a minimum of disturbance to the distribution of the weight of the locomotive.

The use of the term "lever principle" arises from the employment of a definitely selected pivot point in the locomotive wheel base about which the mass of the locomotive rotates with respect to the track as the locomotive passes around curves. On an eight-coupled driving-wheel base this is the rear pair of driving wheels in which no provision is made for lateral movement of the axle with respect to the locomotive bed. The guiding wheels on the front engine unit (the front pair of truck wheels and the front pair of driving wheels) have provision for ample lateral movement against controlled resistance. The initial resistance of these wheels is about 17 per cent, increasing gradually as the movement progresses. The second and third pairs of driving wheels adjust themselves freely against a somewhat lower initial resistance and through a somewhat less range of lateral movement than that effective on the guiding wheels. Wheels back of the pivot pair control the movement of the rear end of the locomotive against an initial lateral resistance somewhat lower than that of the guiding wheels. All wheels are fitted to track gage with a setting of  $53\frac{3}{8}$  in. between the backs of the tires.

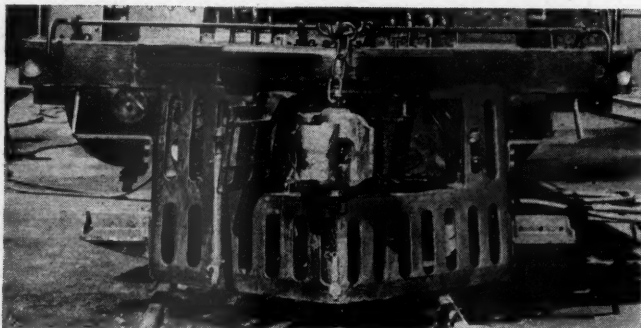
The effect of this arrangement is to produce a rigidly guided locomotive when on tangent track which adjusts itself freely on curves with a guiding force cushioned in its application. Locomotives on which this arrangement has been used are said to move around curves smoothly with complete absence of the succession of violent guiding oscillations characteristic of many existing steam locomotives.

In counterbalancing advantage has been taken of the absence of the tendency to nose, brought about by the lateral rigidity of the wheel base on tangent track, to keep down the overbalance. This has been fixed conservatively at 28 per cent of the reciprocating weights.

In order to relieve the tendency of locomotives with long wheel bases to overload the driving springs when passing over concave vertical curves at summits and to under load them with corresponding overloading of the truck springs at the ends of the wheel base when passing over a convex curve an unusual degree of flexibility has been provided in the spring rigging by the employment of coil springs at all points of anchorage of the spring rigging to the engine bed and to the trailer truck. Each of these cushion springs comprises two 8-in. double coils in tandem; they permit the elongation or shortening of what are customarily hangers of fixed length, and permit vertical adjustments throughout the entire wheel base to conform to the track with a minimum of distortion of the adhesion weight on the driving wheels. With this arrangement the main springs of the system are designed with an overload factor of only 5 per cent.

Unusual attention has been given to insuring freedom of adjustment of the entire spring-rigging suspension system. Wherever possible, the spring hangers are of the loop type. Alemite lubrication is applied to the circular curved surfaces between the hanger loop and the spring gib. Cross-equalizer hangers have ball ends which hang in removable seats in oil-waste-packed pockets in the equalizer.

The locomotive as a whole has a three-point suspension. All driving wheels of the front engine are equalized on each side and the two sides are cross-equalized at the front end to the suspension of the rear end of the main equalizer beam, the front end of which bears in the Bissel type center pin of the engine truck. Each side



The Coupler in Operating Position

of the rear engine is equalized as a unit from front to back, including both trailer wheels.

#### Foundation and Running Gear

The two engine beds of the locomotive are connected by a vertical articulation hinge with the pocket and pin at the front end of the rear engine bed and the tongue at the rear end of the front engine bed, which is similar to the arrangement developed by the Union Pacific for their 4-6-6-4 type single-expansion locomotive. The two engine units are so arranged that when the boiler load is applied to the waist-sheet support on the front engine bed a load of about seven tons is delivered to the top of the tongue from the rear engine bed. The two engine units are thus completely rigid in a vertical plane and all adjustment to vertical curvature is through the spring-rigging suspension.

A combination of coil and elliptic springs characterize the Alco four-wheel engine truck. These operate in parallel. The inclined-plane-and-geared-roller centering device has an initial resistance to lateral movement of 18 per cent, increasing to 33 per cent. The center plate is sealed to exclude dust and is force-feed lubricated. Oil is also fed to the racks and roller teeth of the centering device. The wheels are 36 in. in diameter and have SKF inside journal bearings which are tied together with a one-piece top-half integral box, making this a non-self-aligning bearing.

The General Steel Castings four-wheel trailing truck has 42-in. wheels with SKF twin-bearing outside journal boxes. It has a centering device with a 10 per cent initial resistance, increasing to 15 per cent and thence remaining constant.

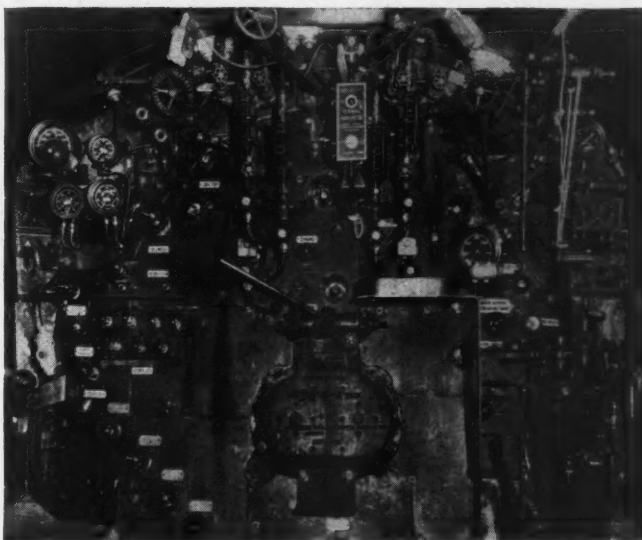
The driving wheels, which are 68 in. in diameter over the tires, are of the Boxpok type. The axle journals have Timken roller bearings. The driving boxes and all other roller-bearing boxes on the locomotive are fitted with heat indicators. Driving boxes are equipped with Franklin compensator and snubber wedge assemblies. Alco lateral-motion devices are applied on the three leading driving axles of each engine unit.

The side rods are of the articulated type, eliminating knuckle-pin connections, similar to those developed by the Union Pacific for their first order of 4-8-4 type freight and passenger locomotives. Vertical grease pockets are located in the bodies of the rods adjoining the crankpins, except for the ends of the rods on the intermediate crank pin. This bearing is lubricated from the hollow bore of the crank pin. The driving axles, the main and side rods, crank pins and piston rods are heat-treated low-carbon-nickel steel.

The pistons were furnished by the Locomotive Finished Material Company. They are of light alloy-steel rolled section with three T-section combination bronze and cast-iron piston packing rings. The crossheads are manganese-Vanadium alloy-steel castings and operate in multi-bearing guides. The guides are carbon-steel forgings, secured at both ends by heavy clamps so that in adjusting themselves to the lateral expansion of the cylinders the bolts are not subjected to shearing stresses.

The weight of reciprocating parts on each side of the locomotive is 2,106 lb. on the front engine and 1,912 lb. on the rear engine. The weight of the main rod is appor-

tioned between reciprocating and revolving weights by the center-of-percussion method. All revolving weights are balanced in each wheel and overbalance for 28 per cent of the reciprocating weights is divided equally among all wheels. The main driving wheels are cross-balanced. To avoid the use of separate patterns the primary counterbalance is symmetrical about the diameter through the crank pin and in the wheel center are cast separate secondary counterbalance pockets at either end of the primary counterbalance for the cross-balance correction. One of these is used and closed with a steel plate, welded

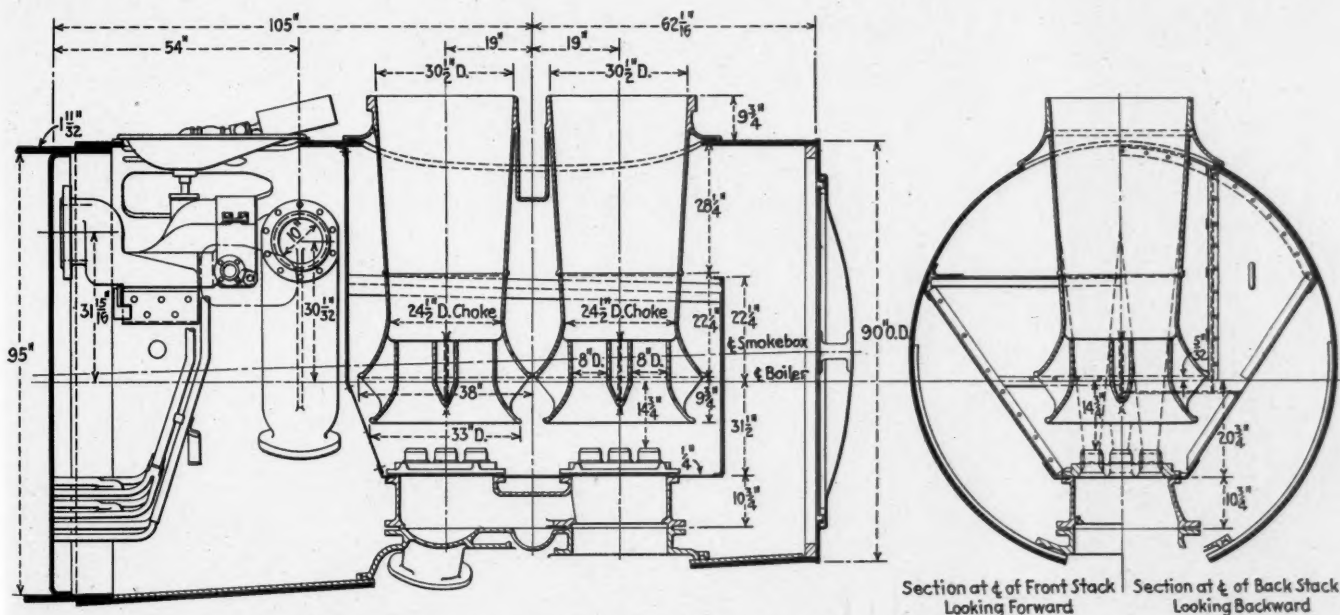


The Back Head Presents an Orderly Arrangement of Valves, Gauges, and Controls

on. The other is left open. The maximum dynamic augment at diametral speed is 7,590 lb.

#### Steam Pipes and Steam Distribution

The live- and exhaust-steam pipes applied to these locomotives are larger than those heretofore applied to any other single-expansion articulated locomotives. Test data developed by the Research and Mechanical Stand-



In the Front End Are Two Stacks, Two Four-Jet Exhaust Nozzles and a Patented Labyrinth Front-End Draft Appliance

ards Department of the Union Pacific conclusively demonstrated that, to utilize full boiler capacity and develop maximum power output, past practices could not be followed. The arrangement of the steam pipes applied to these locomotives represents a further development of the system of flexible connections to the leading pair of cylinders which has been employed on a number of articulated locomotives previously turned out by this builder. By this system steam from the branch pipes is divided and delivered directly to each pair of cylinders. By the use of a short rotating steam-pipe connection at the cylinder, to the outer end of which the longer flexible connection to the branch-pipe is attached by a flexible joint, these pipes adjust themselves to the lateral movement of the front engine on curves without the use of slip joints. The three flexible connections in each pipe are full ball joints, permitting complete freedom of adjustment. While the use of ball joints at these locations is not new, those installed on the Union Pacific locomotives have been materially simplified in design.

Because of the universal movement permitted by the ball joints, a pair of outrigger studs has been applied to the ball-joint casing at each cylinder. There is normally

a small clearance between the ends of the studs and the face plate over which they move as the joint rotates. Should this joint and the pipe arm attached tend to roll out of alignment when there is no pressure in the pipes these studs prevent the pipe from tipping out of alignment.

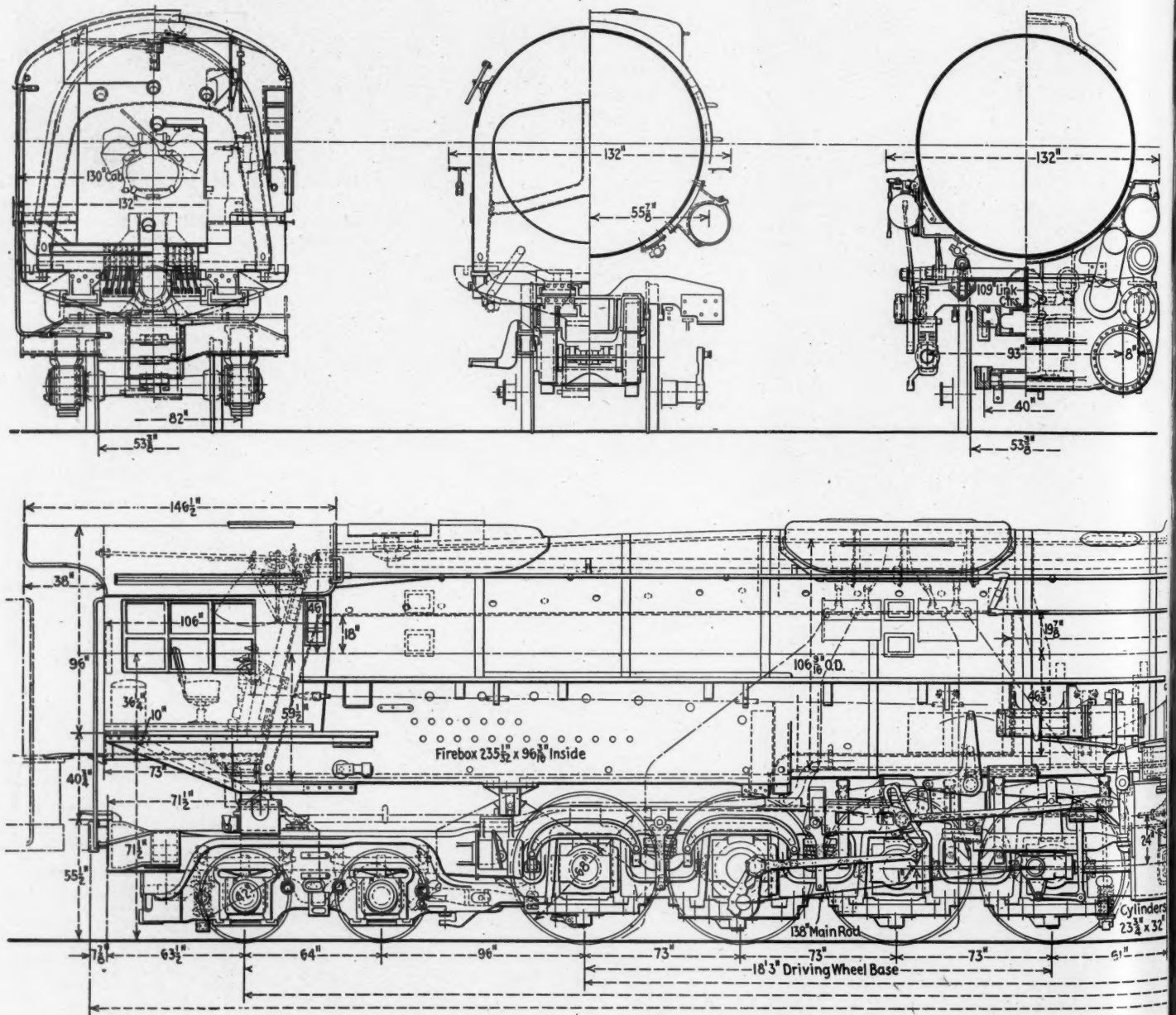
The main steam pipes to both pairs of cylinders are insulated with Unarco Insbestos pipe covering.

The expansion joint at the rear end of the long steam pipe to the rear cylinders is balanced against the effect of internal pressure.

The cylinders, together with the back cylinder heads, are integral parts of the bed castings. Both cylinders and valve chambers have Hunt-Spiller gun-iron bushings.

The steam distribution is effected by 12-in. piston valves and is controlled by Walschaert valve gear. The valves are Hunt-Spiller lightweight design with Duplex bronze and cast-iron lip-type packing rings.

All pins in the Walschaert valve gear, except the eccentric crank pin are fitted with McGill needle bearings. An SKF self-aligning roller bearing is applied on the eccentric crank pin. The union links, combination lever, radius bars, radius-bar lifters, and valve stems are



Elevation and Cross-Sections of one of the Union Pacific 4-8-4 Type

heat-treated low-carbon nickel steel. The links, link blocks, and valve-motion pins are casehardened.

The reverse gear is an Alco special Type H with a 12-in. by 24-in. cylinder. Compensating springs are applied to the reverse shafts on both engines.

### Lubrication

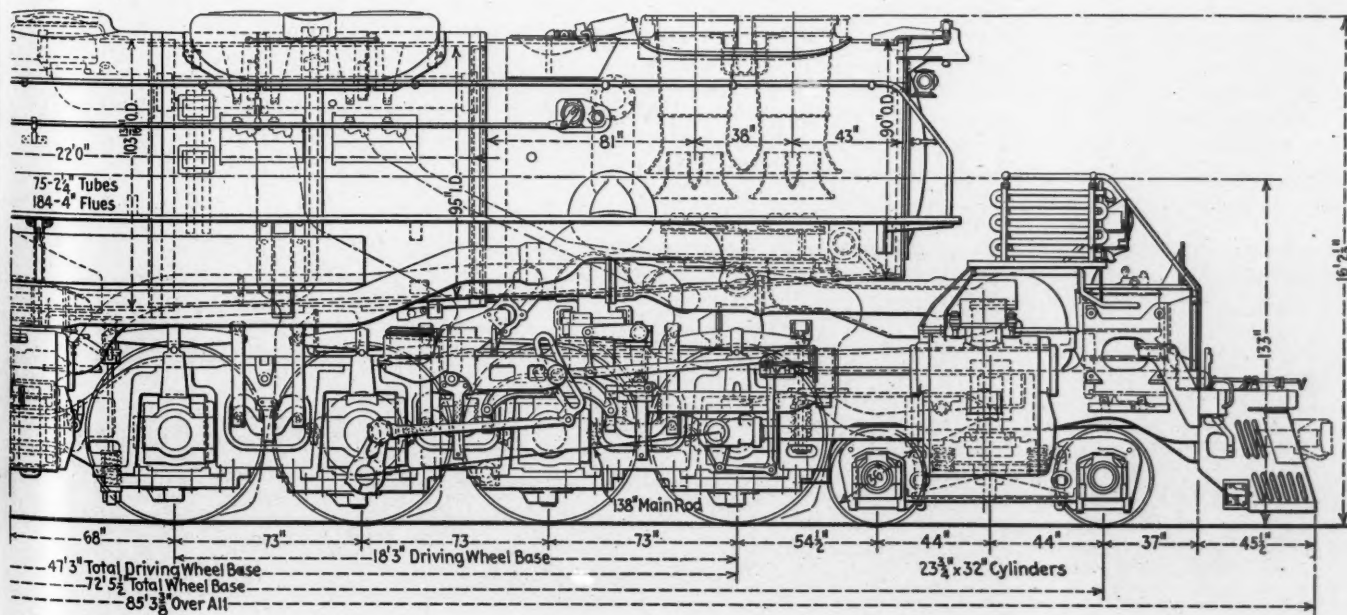
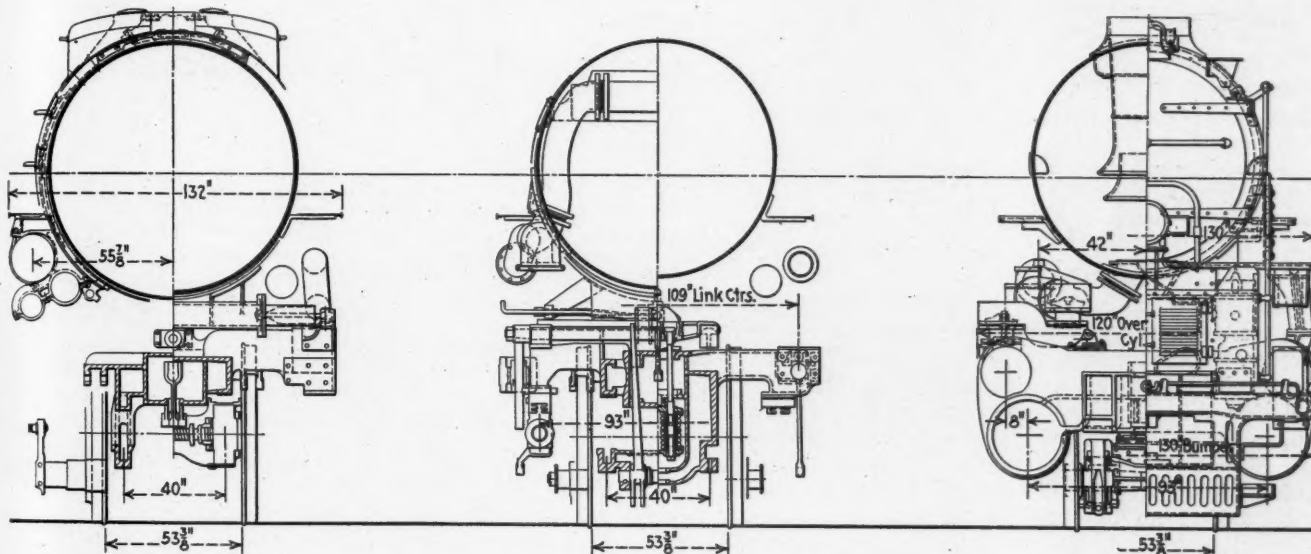
Mechanical application of oil lubrication to these locomotives is effected by four Nathan DV7 36-pint mechanical lubricators with a total of 49 feeds leading through Detroit two- and four-way dividers and terminal checks to 123 oil outlets, exclusive of the air compressors and tender. The points lubricated include the valves, cylinders, cylinder cocks, piston-rod packing, steam-pipe and exhaust-pipe ball and slip joints, the driving boxes and driving-box wedges, guides, engine-truck and trailer-truck center plates, trailer-truck journal boxes, engine-truck lateral-motion device, throttle, reverse gear, articulation hinge pin, stoker, and radial buffer. Two of these lubricators supply cylinder oil to the bearings subjected to steam temperatures; the other two furnish lubrication for the chassis bearings.

In addition to the oil lubrication, all spring-rigging joints, brake-rigging pins, and valve-motion bearings have Alemite fittings. In the few points at which pin connections are used in the spring rigging, the pins fit in Graftex self-lubricating bushings.

### The Boiler

The boiler has three barrel courses and, due to thickness, the sheets were cold rolled and then stress relieved before riveting the seams. The first course is conical with an inside diameter of 95 in. at the front end. The third course, which surrounds the combustion chamber, is 106 $\frac{9}{16}$  in. outside diameter. All longitudinal seams are of the saw-tooth type riveted and caulked inside and outside; also, all circumferential seams are caulked inside and outside. The firebox is 235 $\frac{1}{2}$  in. in length by 96 $\frac{3}{16}$  in. in width, and the combustion chamber is 112 in. long. The crown sheet is about 27 ft. in length and has a relatively small slope; the highest point at the front tube sheet is only 1 $\frac{7}{8}$  in. higher than the lowest point at the door sheet.

Practically the entire boiler structure is built of Bethloc



Single-Expansion Articulated Locomotives for Fast Freight Service

steel. This includes the barrel sheets and the firebox wrapper sheets, as well as the entire inside firebox. The front barrel sheet is  $1\frac{11}{32}$  in. thick, and the two larger courses  $1\frac{3}{8}$  in. each. The smokebox is of three-piece welded construction, to which is attached the boiler bearing, thus relieving the boiler barrel of any shock load which may be transmitted from the front engine unit.

All seams in the firebox, including the attachment of the back tube sheet to the combustion chamber, are welded. At the mud ring the caulking edges of the inside sheets are welded around all four corners, and the outside sheets around the front corners. At the back, the caulking edge of the outside sheet is welded around the corners and entirely across the mud ring. Seal welding is also applied to the outside caulking edges of the wrapper-sheet and back-head seams, to the side- and roof-sheet seams, and to a large part of the front wrapper-sheet seams. The ends of the longitudinal barrel seams are also seal welded.

The Flannery flexible staybolts have the MK type caps. There is a complete installation of flexibles around the combustion chamber and over the crown sheet. There are flexible bolts also along the top of the side sheets, across the top rear corner of the side sheets, and around the rear corners of the firebox. Flexible bolts are also applied at all locations on the back head under the cab deck. The rear firebox corners have radii of 24 in. inside and 25 in. outside at the mud ring, tapering upward to the customary short radii near the top of the side wrapper sheet.

The firebox is supported on the engine bed by four sliding-shoe furnace bearers. Each is enclosed by an oil-tight sheet-steel casing and is immersed in an oil bath.

In the firebox are seven Security circulators and through each side are 20 secondary air tubes.

The boilers have the Electro-Chemical Engineering Company foam-collapsing trough and automatic blow-down system. The Wilson blow-off cocks in the firebox side near the back head are pneumatically operated and are piped into the centrifugal separator which forms a part of the automatic blow-down system. An additional blow-off cock is provided in the belly of the boiler at the front end of the first course, with the nozzle directed toward the firebox for use in blowing down and filling the boiler. Blow-off cocks which are hand-operated from the ground are placed in the sides of the firebox near the throat sheet.

The Firebar grates have 15 per cent air openings. The stoker is the Standard Type MB with the stoker engine installed in the tender. The boiler feed equipment includes a Nathan live-steam injector on the right side and an Elesco exhaust-steam injector with remote control and centrifugal pump on the left side.

The exhaust-steam injector is the recently developed

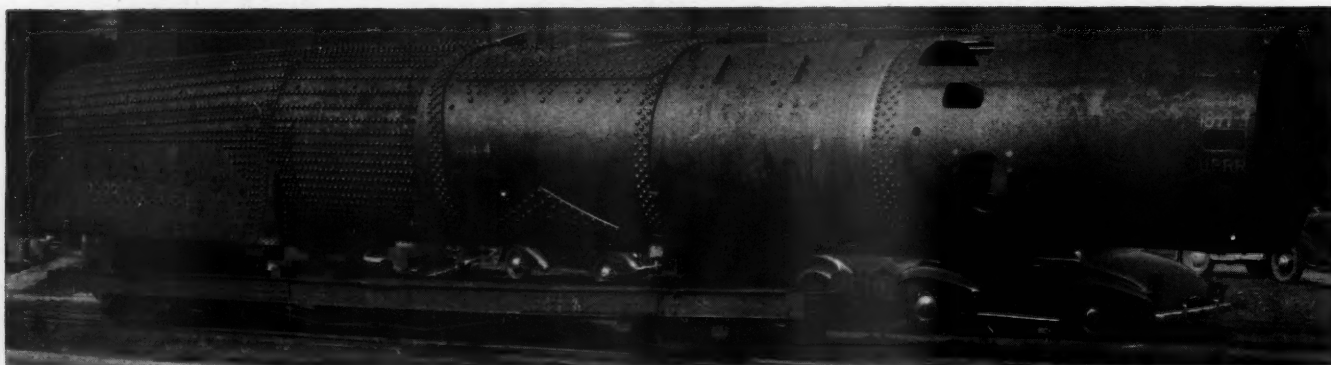
type TP. It is started and stopped by a simple starting valve. The amount of water delivered to the boiler is regulated by an indexing handle in the cab which is the only manual control and does not need to be moved when the injector is shut off. The operation is entirely automatic once the starting valve is opened. The centrifugal

#### General Dimensions and Weights of the Union Pacific 4-8-8-4 Type Locomotives

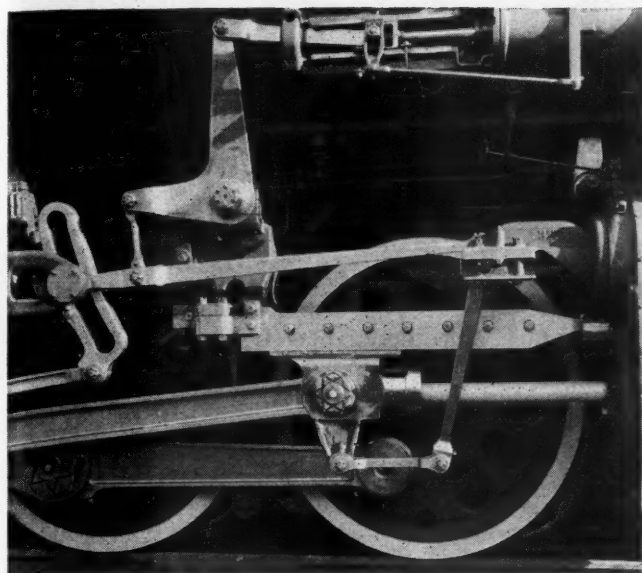
Railroad	Union Pacific
Builder	American Loco. Co.
Type of locomotive	4-8-8-4
Road numbers	4000-4019
Date built	1941
Service	Fast frt.
Rated tractive force, engine, lb.	135,375
Weights in working order, lb.:	
On drivers	540,000
On front truck	97,000
On trailing truck	125,000
Total engine	762,000
Tender	435,800
Wheel bases, ft.-in.:	
Driving, total	47-3
Front and rear engine, each	18-3
Engine, total	72-5½
Engine and tender, total	117-7
Driving wheels, diameter outside tires, in.	68
Cylinders, number, diameter and stroke, in.	4-23¾x32
Valve gear, type	Walschaert
Valves, piston type, size, in.	12
Maximum travel, in.	7
Boiler:	
Steam pressure, lb.	300
Diameter, first ring, inside, in.	95
Firebox length, in.	235½
Firebox width, in.	96¾
Combustion chamber length, in.	112
Security circulators, number	7
Tubes, number and diameter, in.	75-2¼
Flues, number and diameter, in.	184-4
Length over tube sheets, ft.-in.	22-0
Fuel	Soft coal
Grate area, sq. ft.	150
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	593
Security circulators	111
Firebox, total	704
Tubes and flues	5,185
Evaporative, total	5,889
Superheater	2,466
Comb. evap. and superheater	8,355
Tender:	
Type	Water bottom
Water capacity, gal.	250,000
Fuel capacity, tons	28
Trucks (one)	4-wheel

booster pump is added to the type TP injector so that the choice of location on the locomotive is not limited by the non-lifting characteristic of the injector itself, and on these locomotives the exhaust-steam injector is located on the left side of the smokebox.

The Type E superheater has 93 units. These units, which are inserted in 4-in. flues, are  $1\frac{3}{8}$  in. in diameter. The multiple throttle includes an auxiliary throttle, supplied with saturated steam from the dome, for drifting and handling the locomotives by hostlers at terminals. The throttle has a double quadrant and latch to permit



The Boiler of One of the Union Pacific Locomotives



Running-Gear Details of a Rear Engine Unit

half-notch adjustment. It provides additional head room in the cab.

The front-end arrangement consists of two complete stacks and exhaust nozzles on a common base, one for each of the two engine units. Each exhaust tip has four jets. Each stack extension includes a four-jet combining tube at the bottom which resembles somewhat the formerly much-used petticoat pipe in its relation to the stack extension proper. These jet-combining tubes comprise in effect four draft tubes, one for each exhaust jet, and the setting is such that the jet fills the tube near the top. As the exhaust jets pass into the upper part of the stack extension, further injector action is effected in the annular passage between the top of the draft tubes and the stack-extension bell.

The labyrinth front-end draft appliance is a patented device developed on the Union Pacific. Instead of the customary arrangement of table plate, the exhaust nozzles and smoke stacks are enclosed at the sides by longitudinal sheets which slope from the arch of the smokebox to the top of the exhaust stands. Thus, the gas passages to the front of the smokebox range from 96 to 112 per cent of the net gas area through the tubes and flues.

The front of the space about the stacks and nozzles is partially closed by a vertical plate, the top of which is 22¼ in. above the center line of the boiler. The gases pass through the space between this plate and the smokebox door and over its top through the area between it and the top of the smoke arch through the labyrinth draft appliance. The areas of these passages are in excess of the net gas area through the tubes and flues.

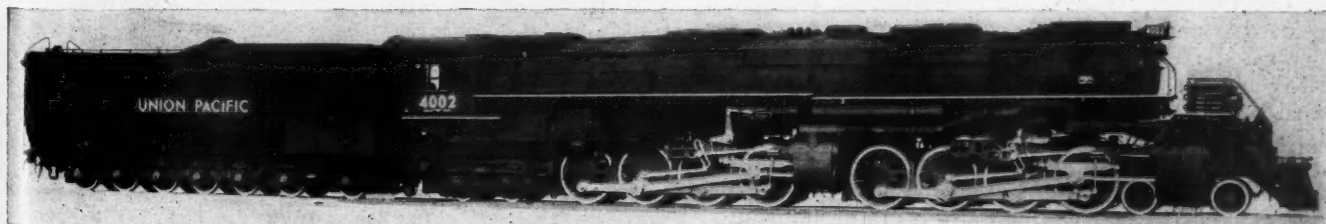
The cab is completely supported from the boiler. It is insulated with Fiberglas and lined with Masonite. It has Prime clear-vision windows with air defrosters at the front and windshield wings at the windows on each side. Both the engineman's and fireman's seats, fur-

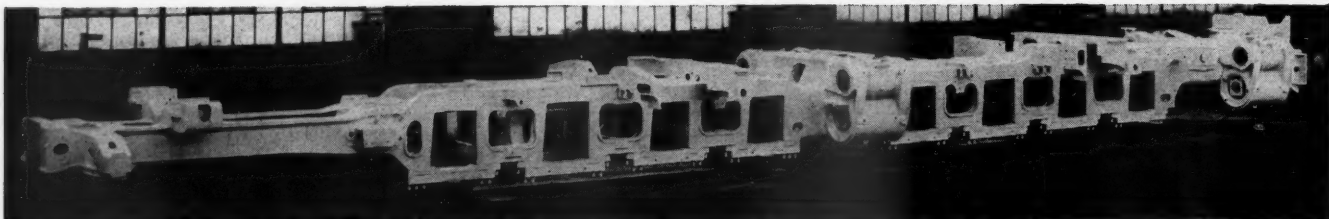
nished by Heywood-Wakefield, are adjustable both horizontally and vertically. There is a seat for the road foreman on the right side, and a seat for the brakeman on the left side.

These locomotives are equipped with two water columns each having two standard-length water glasses, and the right-hand water column is provided with three gauge cocks. The height of water above the highest point of the crown sheet on level tangent track is 10½ in. with the water level in the boiler at the bottom gauge cock. Each pair of water glasses is applied with a vertical difference of 5½ in. in the lowest water-glass indication. The upper water glass is for indicating the

#### Partial List of Materials and Equipment on the Union Pacific 4-8-4 Type Locomotives

Bases, driving-wheel centers, bumpers and pilots, trailing trucks. ....	General Steel Castings Corp., Eddystone, Pa.
Engine and trailer-truck wheels. ....	Bethlehem Steel Co., Bethlehem, Pa. Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Lateral-motion device; trailer and driving springs; tires	American Locomotive Co., Railway Steel Spring Div., New York.
Radial buffers; frame wedges; compensator and snubber ..	Franklin Railway Supply Co., Inc., New York.
Roller bearings. ....	SKF Industries, Philadelphia, Pa. The Timken Roller Bearing Co., Canton, O.
Frame equalizer bushings; shaft arm bushings. ....	Gatke Corp., Chicago.
Engine couplers. ....	Buckeye Steel Castings Co., Columbus, Ohio.
Brakes. ....	Westinghouse Air Brake Co., Wilmerding, Pa.
Brake shoes. ....	American Brake Shoe & Foundry Co., New York.
Brake-pipe conduit. ....	United States Rubber Co., New York.
Air pump intercooler. ....	New York Air Brake Co., New York.
Boiler and firebox plates. ....	Bethlehem Steel Co., Bethlehem, Pa.
Tubes. ....	National Tube Co., Pittsburgh, Pa.
Tube turns. ....	Tube-Turns, Incorporated, Louisville, Ky.
Brick arch; Security circulators. ....	American Arch Co., Inc., New York.
Staybolt material. ....	Jos. T. Ryerson & Son, Chicago. Ulster Iron Works, Dover, N. J.
Flexible stays; expansion stays. ....	Flannery Bolt Co., Bridgeville, Pa.
Rivets. ....	The Champion Rivet Co., Cleveland, Ohio.
Fusible plugs. ....	Nathan Manufacturing Co., New York.
Lock washers. ....	National Lock Washer Co., Newark, N. J.
Stop nuts. ....	Elastic Stop Nut Corp., Union, N. J.
Door hinges. ....	The Homer D. Bronson Co., Beacon Falls, Conn.
Steam pipes; exhaust pipes..	National Tube Co., Pittsburgh, Pa.
Pipe clamps. ....	Adirondack Foundries & Steel, Inc., Watervliet, N. Y.
Pipe supports. ....	Symington-Gould Corp., Rochester, N. Y.
Copper pipe. ....	Chase Brass & Copper Co., Waterbury, Conn. Phelps Dodge Copper Products Corporation, New York.
Asbestos tubing. ....	Union Asbestos & Rubber Co., Chicago.
Cylinder and boiler lagging..	Johns-Manville Sales Corp., New York.
Multiple throttle. ....	American Throttle Co., New York.
Packing. ....	The Garlock Packing Company, Palmyra, N. Y.
Superheater pipes; exhaust steam injectors. ....	The Superheater Company, New York.
Steam line injectors. ....	Nathan Manufacturing Co., New York.
Foam collapsing system. ....	Electro Chemical Engineering Corp., Chicago.
Coal sprinklers. ....	Wm. Sellers & Co., Inc., Philadelphia, Pa.
Ashpan sprinkler valve. ....	The Lunkenheimer Company, Cincinnati, Ohio.
Washout plugs; circulator plugs. ....	The Prime Manufacturing Co., Milwaukee, Wis.
Hose. ....	Hewitt Rubber Corp., Buffalo, N. Y.
Blow-off cocks. ....	Wilson Engineering Corp., Chicago.
Feed pipe strainer. ....	T-Z Railway Equipment Co., Chicago.
Grates. ....	Waugh Equipment Co., New York.
Firedoors. ....	Franklin Railway Supply Co., Inc., New York.
Stokers. ....	Standard Stoker Co., Inc., New York.
Stoker flexible joints. ....	Barco Manufacturing Co., Chicago.
Cab insulation; ventilators..	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Cab roof; side walls. ....	Masonite Corp., Chicago.
Clear vision windows. ....	The Prime Manufacturing Co., Milwaukee, Wis.
Shatterproof glass. ....	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Floor plates. ....	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.





The Front and Rear Engine-Bed Castings

Engineman and fireman's seats	Heywood-Wakefield Co., Gardner, Mass.
Seat covering	L. C. Chase & Co., Inc., New York.
Water gages; gage cocks	Nathan Manufacturing Co., New York.
Safety valves; boiler checks	Manning, Maxwell & Moore, Inc., Locomotive Equipment Division, Bridgeport, Conn.
Steam-heat gages; back-pressure gages; steam gages	Ashton Valve Co., Boston, Mass.
Steam-heat flexible joints	Franklin Railway Supply Co., Inc., New York.
Gage holders	T-Z Railway Equipment Co., Chicago.
Cocks and valves	Crane Co., Chicago.
Whistle	The Lunkenheimer Co., Cincinnati, Ohio.
Bell ringer	Walworth Company, New York.
Sander equipment	Manning, Maxwell & Moore, Inc., Locomotive Equipment Division, Bridgeport, Conn.
Headlights and headlight generator	Railway Service and Supply Corp., Indianapolis, Ind.
Classification lamps	Morris B. Brewster Company, Chicago.
Ball joints	The Pyle-National Company, Chicago.
Universal joints	The Adams & Westlake Co., Elkhart, Ind.
Flexible conductor	Barco Manufacturing Co., Chicago.
Cylinder and piston-valve bushings; piston valves	Manning, Maxwell & Moore, Inc., Locomotive Equipment Division, Bridgeport, Conn.
Pistons	Kerite Insulated Wire & Cable Co., New York.
Piston-rod and valve-stem packing	Hunt-Spiller Manufacturing Corporation, Boston, Mass.
Rod brasses; hub liners; crosshead liners; eccentric crank liners; expansion shoe wearing plates; frame shoes; bells; steam metal	Locomotive Finished Material Co., Atchison, Kan.
Crossheads	Paxton-Mitchell Co., Omaha, Neb.
Steel for crank pins, driving axles, main and side rods, and valve-gear details	Magnus Metal Corporation, Chicago.
Drifting valves	Vanadium Corporation of America, New York.
McGill needle roller bearings (valve gear)	The International Nickel Company, New York.
Cylinder cocks	Kieley & Mueller, Inc., New York.
Drain cocks	Pilliod Co., New York.
Reverse gear	The Prime Manufacturing Co., Milwaukee, Wis.
Lubricators	The Okadec Company, Chicago.
Lubricator dividers and terminal checks	American Locomotive Co., New York.
Alumite grease	Nathan Manufacturing Co., New York.
Rod grease	Detroit Lubricator Co., Detroit, Mich.
Grease fittings	Socony Vacuum Oil Co., Inc., New York.
Tender:	The Texas Company, New York.
Frames; lateral-motion device; front truck	The Prime Manufacturing Co., Milwaukee, Wis.
Wheels	General Steel Castings Corp., Eddystone, Pa.
Roller bearings	Bethlehem Steel Co., Bethlehem, Pa.
Clasp brakes	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Draft gear	The Timken Roller Bearing Co., Canton, Ohio.
Couplers	American Steel Foundries, Chicago.
Tank plates	W. H. Miner, Inc., Chicago.
Steam-heat pipe covering	National Malleable and Steel Castings Co., Cleveland, Ohio.
Paint	Bethlehem Steel Co., Bethlehem, Pa.
	Union Asbestos & Rubber Co., Chicago.
	E. I. du Pont de Nemours & Co., Wilmington, Del.
	The Glidden Co., Cleveland, Ohio.
	Sherwin Williams Co., Cleveland, Ohio.

height of the water in the boiler on level track or ascending grades, and the lower water glass is for indicating the height of the water in the boiler on descending grades.

There are two saturated-steam turrets in front of the cab, one on either side. Each is supplied through a 3½-in. dry pipe from the dome. Another turret for superheated steam supplies the air pumps, stoker and turbo-generator. The whistle is also operated by superheated steam.

The air-brake equipment is Westinghouse No. 8 ET. Two 8½-in. cross-compound compressors are mounted on the front end of the forward engine bed. Each compressor is served by a mechanically operated lubricator.

Shields in front of the air compressors protect the air-brake fin-tube radiation. There is 15 ft. of radiation pipe between the air pumps and a sump reservoir and an eight-tube New York Air Brake intercooler between the sump reservoir and the main reservoir. In the sump reservoir is an automatic drain valve.

Single brake heads with two flanged brake shoes per head are applied on the driving wheels. A single long brake shoe is applied on the rear of each trailer-truck wheel. The engine truck is designed for the future application of brakes. There are anti-rattler devices throughout the brake rigging.

### The Pilot and Bumper

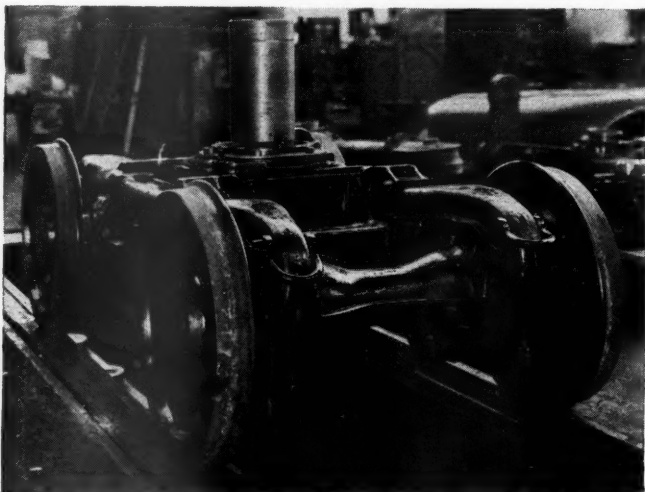
The pilot is cast integral with the front bumper beam and the latter is provided with a rubber bumper. The top section of the pilot consists of a swing-type coupler furnished by the Buckeye Steel Castings Company, which, when in closed position, fits the contour of the pilot and removes all obstructions.

### The Tender

The tenders are built on General Steel Castings water-bottom beds. They are carried on a four-wheel truck at the front end and five pairs of wheels mounted in pedestals cast integral with the tender bed. The equalizing system provides a three-point-load suspension. All wheels are 42 in. in diameter and have Timken roller bearings in outside journal boxes.

The four-wheel tender truck is equalized and has a roller centering device designed for 17 per cent initial and constant lateral resistance. There are no side bearings on the tender truck.

The five pairs of pedestal-mounted wheels are equalized together on each side of the tender, with one semi-  
(Continued on page 528)



The Engine Truck

# More Power and More Miles from Locomotives

Improved steam distribution and suggestions for increased utilization among subjects on Traveling Engineers' annual meeting program

**I**N an article beginning on page 480 of the September 27 issue appeared abstracts and summaries of several reports presented at the fifth annual meeting of the Railway Fuel and Traveling Engineers' Association which was held at the Hotel Sherman, Chicago, September 23 and 24. Abstracts of two additional papers are presented below. These are on Locomotive Performance as Affected by Steam Distribution, by J. L. Ryan, mechanical engineer, St. L.-S. F., and fuel economy from the viewpoint of the water engineer, by R. C. Bardwell, superintendent water supply, C. & O. Another report presented at the meeting was prepared by a committee of which the president of the association, A. A. Raymond, superintendent fuel and locomotive performance, N. Y. C., was chairman. This was on the Utilization of Motive power. It explored the possibilities for effecting a 25 per cent increase in miles per active locomotive per day and surveyed the methods by which this increase could be accomplished. An abstract of this report will appear in a subsequent issue.

At the last session of the meeting officers were elected to serve for the ensuing year. These are: President: L. E. Dix, fuel supervisor, Tex. & Pac.; vice-presidents: J. A. Burke, supervisor of air brakes, A. T. & S. F.; E. E. Ramey, fuel engineer, B. & O., and W. C. Shove, general road foreman of engines, N. Y. N. H. & H. The following four persons were elected members of the Executive Committee to serve for two years: E. Holmquist, master mechanic, C. & N. W.; A. G. Hoppe, assistant mechanical engineer, C. M. St. P. & P.; H. W. Sefton, superintendent fuel and locomotive performance C. C. C. & St. L., and W. R. Sugg, superintendent fuel conservation, Mo. Pac. T. Duff Smith continues to serve as secretary-treasurer.

## Locomotive Performance As Affected by Steam Distribution

In this paper, the author, J. L. Ryan, mechanical engineer, St. L.-S. F., discusses the effect of long steam lap and long valve travel in increasing the horsepower capacity of steam locomotives for high-speed service. He points out that, at the medium and shorter cut-offs, long steam lap increases the valve travel and so increases the maximum opening and port area through which to admit steam to the cylinder during the extremely short time interval available. At diametral speed and 25 per cent cut-off this interval is 0.03 sec.

Other advantages to which he called attention are increased freedom of release, resulting in lower back pressure, and less preadmission for a given lead, which permits taking advantage of the beneficial effect of greater lead on capacity—all adding up to higher mean effective pressure at all cut-offs. He stressed the need of a valve of sufficient diameter to provide adequate port areas through which to admit and exhaust the steam.

The author said that the speeding up of passenger service, affecting the inertia forces in the valve gears in proportion to the square of the speed, had caused some valve-gear maintenance

troubles and that to relieve these troubles a trend was started toward reduced maximum valve travel and shorter steam lap. To remove the restrictions on steam distribution at the shorter cut-offs set up by the shorter steam laps, he recommended the following procedure:

1—The use of valves of lightweight construction using bronze valve rings, preferably of a sectional type.

2—Refinements in the design of valve-gear parts, using steels having high physical properties, with the exception of the eccentric rods which are subject to shop adjustment.

3—Provide more liberal areas in the bearings. Preferably apply roller bearings to eliminate the play inherent in friction bearings and so to reduce the shock loads on the valve-gear parts.

4—Provide a large diameter eccentric-crank fit on the main pin, with key of increased proportions.

In speaking of the increasing load which the railways are facing from week to week, Mr. Ryan said that attention should not be concentrated on the few new locomotives which can be purchased to the exclusion of the many older locomotives which will be continued in service for many years.

"Where increase in the tractive force or horsepower of existing locomotives is desirable, if the boiler stresses permit, it is common practice to raise the working pressure," he said. "To all concerned this gives a tangible increase. It also increases the stresses in frames, crank pins, rods, etc., and, in some instances, due to the latter stresses being increased beyond acceptable limit by the increased piston thrust, the pressure cannot be raised.

"There is another source of power increase for operation at speeds above that of starting that is just as tangible in producing operating results as is increased boiler pressure, but that unfortunately appears not to be fully appreciated by many. It is the increase that without change in boiler pressure may be effected in the mean effective pressure at given cut-offs and piston speeds of many of our locomotives. This is brought about by providing more liberal steam-admission and exhaust areas for the various cut-offs as previously outlined. Of major consideration is the fact that the boiler stresses and the running-gear stresses from maximum piston thrust are not affected. Some increase should be expected in the maintenance of such items as packing, rod bearings, driving-box bearings, etc.

"In the majority of instances the changes in the valve gears and related steam distribution parts that would be required to give approximate maximum results within the range here considered would come within cost bounds of \$700 to \$2,000. Present design and proportions would necessarily govern the extent to which change out of parts would be required and the increase in horsepower capacity that would result.

"It is quite possible by changes in the steam-distribution systems to add 300 to 700 hp. to the capacity of locomotives that were not carefully designed for maximum horsepower. It is needless to add that at this time any such increases to groups of locomotives would be welcome."

## Water Service and Fuel Economy

In his paper dealing with Fuel Economy from the Viewpoint of the Water Engineer, R. C. Bardwell, superintendent water supply, C. & O., dealt generally with the advantages of chemical treatment of boiler feed water. He then referred to the difficulty of removing oxygen from the boiler feed water, the pres-

ence of which is the principal cause of corrosion and pitting. A check by the American Railway Engineering Association Water Committee reported in 1925, he said, indicated that maintenance of an excess alkalinity of 15 per cent would normally restrict the activity of the oxygen. He said that he had personally found it good practice to maintain an excess between a minimum of 20 per cent and a maximum of 30 per cent which has materially improved conditions on the Chesapeake & Ohio, Nickel Plate, and Pere Marquette.

### Blow-Downs

Dealing with the practice of blowing-down locomotive boilers in service, Mr. Bardwell's paper read in part as follows:

All coal contains more or less impurities. When the pure coal goes off as heat and gases, the impurities are left behind as ashes and clinkers. The occasional shaking of grates to remove the ashes and impurities is taken as matter of course.

However, conditions on the other side of the fire sheets are fully as important. All waters contain impurities of various kinds in the form of scaling matter, alkali salts, or sludge. When the pure water goes out as steam, these impurities remain and concentrate in the boiler. When this concentration of impurities reaches a critical point, the water becomes sticky or "light" and the steam bubbles do not break readily and release the steam but build up on the surface of the water to such an extent that the bubble films and entrained water are carried to the cylinders with the steam and the engine is reported as foaming. It would seem logical that the proper thing to do is to "shake the grates" on the water side of the fire sheets by opening the blow-off cock sufficiently often to remove enough of the impurities and dirty water, and replace it with fresh water to prevent this critical concentration from being reached or exceeded.

When proper supervision is being given to water treatment and the satisfactory operation of the water in the boiler, these critical concentration points are determined for the different classes of power over their respective districts. With this information available and knowledge of the water quality and the amount consumed, it is possible to outline blowdown procedures which will replace sufficient dirty water with a fresh supply and prevent the critical concentration from being exceeded. Where this is followed, foaming is eliminated. This practice will permit the continuous operation of the boiler for the full 30-day allowable periods between washouts and the boiler is kept reasonably clean throughout its service.

To operate with the extended washout period, competent supervision and check is as necessary as for any other type of work. It is necessary to know that the blowoff system is in good condition and will work. Then it is necessary to know that the water in the boiler is being maintained in good condition. A good practice is to have water samples taken from each boiler entering and leaving the terminal and tested to determine the concentration upon arrival. This will disclose the attention given to blowing by the previous road crew, and will permit lowering the concentration sufficiently before leaving to insure a successful ensuing trip. There are now devices on the market at reasonable price and sufficiently accurate which can be used by the regular roundhouse force with a little instruction and occasional check, to make these determinations and give the terminal authorities the same information regarding conditions on the water side of the fire sheets as they have been accustomed to expect of the conditions on the fire side.

With the modern mufflers now available, blowing can be handled satisfactorily at most any location. Devices are on the market which provide for automatic operation of both continuous and intermittent blowdown but most railroads still rely on the intermittent use of the large blowoff cock at designated points or at times which are left to the discretion of the engine crews. One large company has a device which is in the nature of a foam collecting trough which is connected to a blow-off cock that opens automatically whenever the trough becomes filled with water. It is possible that further developments will be made along the line of improving the conditions for handling continuous blows, as results to date, indicate that this is a worth while factor in promoting economical operation of steam locomotives.

The other problem in conditioning water for locomotive use is one which has come up within the past 30 years and is connected with the formation of cracks radiating out from rivet

holes in highly stressed areas where slight leaks have permitted the high concentration of boiler water solids against the stressed metal. This trouble is only partially due to water conditions but research at the Bureau of Mines which has been financed partly by contributions from the Association of American Railroads, indicates that the trouble can be relieved, to some extent at least, by special treatment of the water supplies which may enter into the trouble at particular locations. Small devices have been designated by the Bureau of Mines laboratory which can be readily applied to a locomotive firebox and will show inside of 30 days if the water is of an embrittling nature. This problem is of interest in fuel economy only to the extent that engine time is lost while repairs are being made.

It has been repeatedly demonstrated that proper water treatment will result in a considerable improvement in boiler conditions which are directly connected with fuel economy. The term, "proper water treatment" means the continuous check of water quality both before and during boiler operation in order to insure that desired conditions are being maintained regularly. Good results by the haphazard, occasional application of chemicals, regardless of type, can only be an accident. If railroads are not in a position to handle their own water treatment with a company water chemist, it is possible to contract this work with one of several commercial companies who are organized and equipped to handle the laboratory tests and the field inspection with the necessary competent check supervision. It is necessary that this competent check supervision be provided, either by company force or by contract, if consistent, good results are to be obtained. It is further necessary that full cooperation between the water chemists and the road and shop forces be carried on at all times.

## Union Pacific Gets Heaviest Articulated Locomotives

(Continued from page 526)

elliptic spring and two coil springs over each box. The front and back ends of each equalizing system are anchored to the bed casting through double cushioning coils in tandem. Casehardened spring rigging pins are fitted in Graphitex bushings.

All five pairs of wheels mounted in fixed pedestals are fitted with the General Steel Castings centering device. This consists of rubber blocks, sandwiched between steel plates, which are inserted between the semi-elliptic spring saddles and the top of each box. The vertical guides for the spring saddle on the frame prevent lateral movement of the top of this device but do not interfere with the lateral movement of the journal boxes against the resistance of the shear distortion of the rubber. On the four forward pairs of fixed wheels provision is made for a lateral movement of 1 1/4 in. On the rear pair of wheels the movement is restricted to 3/4 in.\*

A Nathan DV-7 lubricator with eight feeds is mounted on the tender bed and driven from the stoker engine. These feeds supply oil to all tender-truck boxes and to the tender-truck center plate.

Between the engine and tender there is a Franklin E2 radial buffer. The engine and tender connections include U. S. armored rubber hose for the air-brake lines; Franklin metallic joints in the steam-heat train line, and Barco flexible joints in the stoker steam connections.

Couplers, furnished by the National Malleable and Steel Castings Company, and Miner A94XB draft gears are installed at the rear of the tender.

The general dimensions and weights of these locomotives are shown in a table. Another shows a partial list of manufacturers whose materials and equipment form a part of the locomotives.

\* For a more detailed description of this tender design see "Union Pacific Tenders Embody Many Improved Features," page 246, August 17, 1940, *Railway Age*.

# Roadmasters Tackle Problems of a New, Intensive Era

Abstracts of five addresses and three additional reports presented at the fifty-sixth annual meeting of the Roadmasters' and Maintenance of Way Association

## Part II

**P**ART I of the report of the activities at the fifty-sixth annual convention of the Roadmasters' and Maintenance of Way Association, held in Chicago on September 16-18, appeared in the *Railway Age* of September 27. This included abstracts of addresses by C. H. Buford, vice-president, Operation and Maintenance department, Association of American Railroads, who opened the convention; by B. R. Kulp, chief engineer, Chicago & North Western, on The Use of Cars and Locomotives by Maintenance of Way Forces in Times of Maximum Traffic Demands; and by Col. L. R. Groves, chief, Operations branch, Quartermaster General's Staff, U. S. War Department, on The Railway Construction Program of the War Department; and in addition, abstracts of three committee reports dealing with Rail-End Wear—Causes and Correction; Recent Developments in the Renewal of Ties; and Present-Day Roadway Drainage Requirements. It also included reference to the exhibit of track materials and equipment presented by the Track Supply Association in conjunction with the convention.

Other features of the convention, of which abstracts are presented on this and following pages, included addresses by F. S. Schwinn, assistant chief engineer, Missouri Pacific; E. A. Clifford, chief purchasing officer, Chicago & North Western; H. R. Clarke, engineer maintenance of way, Chicago, Burlington & Quincy; A. E. Perlman, chief engineer, Denver & Rio Grande Western; and G. R. Westcott, assistant engineer, Missouri Pacific; and three additional committee reports.

## What We Face in Materials

By E. A. Clifford\*

We are in a critical period and facing conditions that may become a great deal more serious as time goes on. It is a time that requires all the skill and intelligence we possess. One of the very important, if not the most important, matters for our consideration at the moment is our ability to obtain the things necessary to keep our railroad systems in proper and efficient condition to carry the load we expect to be heaped upon us. We have already taken many of the steps that have been and are

\* Chief Purchasing Officer, Chicago & North Western, Chicago.



Tracks Must Keep Pace With Traffic Demands

still open to us, and we have made some progress, but as we go along we are encountering obstacle after obstacle that tries our patience. We must not be discouraged, but rather must employ our greatest intelligence and ingenuity to overcome them.

We must co-operate with government agencies created for the purpose of controlling and regulating the distribution of material that is scarce at the present time because of its need for national defense. These agencies have been set up and are functioning for such a purpose, principally the Office of Production Management, and from personal observation I have no hesitancy in saying that the many men employed in these agencies are truly working hard, intelligently and carefully to find a way that will produce the greatest good for the greatest number, having always in mind first, of course, our defense requirements, and second, in-so-far as possible, to prevent a complete reorientation of business methods and practices, and to avoid inflation.

Among the several orders that have been issued that are certain to affect railroad operation and maintenance are General Preference Order M-14, dealing with high-speed steel; Machine Tool Priority Order; Order M-5 and M-5-a affecting nickel-bearing steel; General Preference Order P-8, Freight Car Construction and Repairs; Preference Order M-9, affecting copper; Preference Order M-15; affecting rubber; Preference Order M-11, affecting zinc; Preference Rating Order P-21, concerning material for the building, rebuilding and repair of locomotives; General Steel Preference Order M-21, taking almost complete control of steel to the end that defense orders get the right of way; and Maintenance and Repair Rating Plan P-22, assigned an A-10 rating. Orders with the prefix "M" indicate that the material affected is under government mandatory control.

General Steel Preference Order M-21 is the first order that actually puts the distribution of steel under mandatory control and places in the hands of the Office of Production Management complete control and actual com-

mand of the industries that make or use steel. It can restrict the quantity of steel going to any industry when steel producers are holding orders for defense material, and one cannot think of it without realizing the gravity of the situation that makes such severe tactics necessary. These orders also remind one of the necessity for the careful use of all materials, and that it may at times be expedient, as well as prudent, to spend more money to put a tool or bar in proper condition for use than the cost of a new one, because of the unavailability of new material.

I hold no brief for or against the methods that are being employed, but I praise the painstaking efforts being made to carry out this colossal task—and I think that the success of our transportation system depends upon its successful solution.

One thought that I wish to leave indelibly in your minds is the fact that the securing of a priority rating does not by any means guarantee the delivery of material. In fact, the A-3 rating, which is the most favorable one assigned to us, means that there are practically 15 ratings that enjoy a better standing. This will give you an idea how long we may have to wait.

To conserve what we have we must be more careful than ever; we must avoid misuse and unnecessary wear and breakage; we must do everything reasonable to protect material from rust and decay, to extend the life of material. Please adopt all necessary plans to accomplish these things at once. In so doing, we may be able to release material for defense or for other vital work.

## What We Face in Equipment

By G. R. Westcott\*

We find ourselves today with a large variety of machines, some of which have been adapted to railroad work from their previous use in other industries, while others have been designed especially for specific jobs in railroad maintenance. On these machines we have come to place great dependence.

In the near future, it is quite possible that there may be added still another condition making the use of equipment important. Just as in the past we have turned to equipment for help in balancing a need for greater production against reduced allowances, and for assistance in securing the track conditions necessary for increased speed and heavy loads, we may shortly discover that equipment must be used to replace labor, which, in the quantity needed, cannot be secured at any cost.

The limit to which mechanical equipment can be used in maintaining our tracks and structures has by no means been reached. There are still many jobs being done by hand that could be done more cheaply and better by machines. However, concerning these machines, there are some things we may know with certainty that we must face. There are others that we may hope to escape, but must be prepared to face. For example, we may know, with reasonable certainty, that we face higher costs for additional machines and for the parts required for the maintenance of the machines we have. We may know with certainty that we face delays in securing machines and parts due to the priority regulations of the government. We face delays due to the general upset market conditions. Often the source from which we have customarily secured a product will no longer be able to furnish it, and another source must be found. We face delays because of the manufacturer's difficulty in securing certain materials, and we face delays in the field application of redesigned parts. In addition, we

face an almost complete standstill in the development of new machines for specific jobs on the railroads; we face a return in some degree to machines of heavier design; and we may face, though we hope to escape, the necessity of using some equipment not well adapted to railroad use.

The situation as a whole does not look too bright, and we may well ask ourselves what measures can be taken to relieve, in so far as possible, the difficulties that appear to be ahead. In this regard, I suggest the slogan, "Make the Most of What You Have."

I know that as maintenance men you must be and are resourceful and are accustomed to meeting emergencies with courage—but do you always make the most of what you have? Are you properly organized for servicing your equipment? For example, have you an adequate supply of repair parts on hand at your stores? I am not advocating hoarding, but I am suggesting one means of overcoming the abnormal delays that will result to your equipment if it is necessary to go to the manufacturer each time a replacement part is needed. Are suitable lubricants readily available? Is your work planned carefully and a comprehensive program made up with a view to keeping your machines, and perhaps the gangs with which they work, busy? Are you keeping in close touch with your machines? Do you know that the operators are doing a good job in handling them? Do you see that your machines are checked regularly and frequently by the maintainer, and adjustments and minor repairs made to insure their most efficient operation? Unless you can answer these questions in the affirmative with truth and emphasis, your supervision is falling down and you are not making the most of what you have.

Perhaps your railroad is not in need of any of these corrective measures. However, I believe that I know the equipment situation on the railroads of the country well enough to say that if we are to make the most of what we have, many of us must plan better, supervise more intelligently and co-operate with our associates more completely.

## Off-Track Versus On-Track Roadway Machines

Pointing out that more than seven and one-half million dollars were spent for work equipment last year, the report of a committee on Off-Track Versus On-Track Roadway Machines, of which A. L. Kleine, division engineer, Denver & Rio Grande Western, was chairman, stressed the importance of getting the maximum return from these machines and cited numerous examples to indicate that the more modern equipment now available and in use, largely of the off-track type, is effecting large economies over earlier methods and equipment.

Among the off-track equipment now available, it cited the crawler dragline and shovel, which it said can be used effectively and with economy in bank widening, ditching, filling bridges, line and channel changes and many other types of work. "In May, 1941," it said, "six of these machines, varying in capacity from  $\frac{3}{8}$  to  $1\frac{1}{4}$  cu. yd., and doing the types of work just mentioned, handled 55,260 cu. yd. of dirt and rock at costs ranging from 3.6 cents to 5.2 cents, and averaging 4.7 cents per yard, while a steam ditcher, clearing up several loose rock slides and hauling the material an average of  $\frac{3}{4}$  mile, handled 1,680 cu. yd at a cost of 54 cents per yard."

Among the other types of off-track equipment mentioned were crawler tractors equipped with bulldozers and front-end loaders; off-track air compressors; highway motor trucks and truck-mounted cranes and off-

\*Assistant Engineer, Missouri Pacific, St. Louis, Mo.

track weed mowing equipment. Referring to the work of bulldozer-equipped tractors, it cited several examples of largely reduced costs over former methods, and, as regards the effectiveness of this equipment in clearing up dirt and rock slides, it told of how, in the case of a slide 500 ft. long and varying from 4 ft. to 9 ft. in depth, where a work train and clamshell had made little progress in 10 hr., a large bulldozer was moved in and opened the track for traffic in a period of six hours. In the case of front-end loaders, it cited examples of ditching and grading costs of 4.6 cents to 4.9 cents per cubic yard, in comparison with costs of more than 50 cents per yard by former methods employing work trains, and, referring to off-track-type tie tamper compressors, it told of largely increased production through decreased delays due to trains and moving air pipe lines.

With regard to motor trucks, it saw substantial savings through their use for bridge and buildings and water service gangs, motor car and machine maintainers, scale inspectors, and track gangs in some territories. Off-track weed mowers, it pointed out, are much more economical in some territories than the on-track type, and have a wider range of application.

The most outstanding example cited by the committee of the savings possible through the use of off-track machines in roadway operations was its reference to what has been done on the Denver & Rio Grande Western. According to the report, the dirt and rock-handling equipment on this road in 1937 consisted of 11 steam ditchers and four 2½-cu. yd. track-mounted steam shovels. The work train expense in that year was \$348,000. By 1941, the majority of these machines had been scrapped and replaced by a number of crawler draglines, shovels, bulldozers, and front-end loaders, at a cost of \$85,000. The work train expense in 1940, when more than twice the amount of work was done than in 1937, was \$53,000, a saving on work-train expense alone of nearly \$300,000.

## Gravel Ballast—Its Requirements and Preparation

A report on Gravel Ballast, which was prepared by a committee of which E. J. Brown, district engineer maintenance of way, Chicago, Burlington & Quincy, was chairman, viewed its subject from the standpoint of setting up requirements for gravel ballast that will bring about the most favorable track conditions with minimum cost for routine maintenance. While not overlooking the initial cost of the ballast and transportation charge for hauling it to the points of use, the keynote of the committee's recommendations was that, from the trackman's standpoint, and ultimate overall costs to the railway, it is poor economy to accept an inferior grade of ballast for any reason.

In the body of its report, after pointing out the various functions of ballast, the committee discussed the qualifications for gravel ballast in order to perform these functions in the most satisfactory manner, dealing first with pit-run gravel ballast, which is that which is used just as it comes from the pit, and then with prepared gravel ballast, which is screened and washed, and often crushed, and then regraded to the most desirable proportions of stone and sand, quoting specifications of the American Railway Engineering Association in regard to both types.

The committee did not overlook the first cost of ballast, pointing out specifically that one of the first considerations in selecting ballast is that the point of origin be not too far from the point of use, but it left no uncertainty as to the vital importance of proper quality and gradation in reducing annual track maintenance cost.

For example, concerning hardness and impurities, it said, in part, as follows:

"Too much emphasis cannot be placed upon securing a gravel of uniformly hard consistency, with a minimum of silt and other impurities. The higher the wheel loads, gross ton miles and speed over the track involved, the more important it is to have a uniformly hard ballast. Once the gravel is unloaded in the track, there is little the roadmaster can do but to live with it. We all know the sad results when we get a stretch of track ballasted with gravel that is too soft or dirty-muddy, weedy track, poor surface and complaints, and with nothing that we can do except struggle along with it until it can be stripped out and reballasted. This must be watched, especially when buying commercial gravel."

In concluding its report, the committee said that while the line of least resistance is to use the gravel that is most conveniently located and cheapest, it pays in the long run to insist upon the best grade of gravel possible, especially for heavy-traffic, high-speed lines.

## Scarcity of Materials. What Can We Do About It?

By H. R. Clarke\*

In times such as now confront us, when, regardless of expenditures or effort, material cannot be secured, there must be no waste, and every possible means of conservation and saving must be resorted to. Since scarcity exists all along the line, we must consider every item we use or are in any way responsible for. Speaking first of track tools, we can and will see that they are not abused or mishandled in any way. In handling work equipment of all kinds, it is our responsibility, as never before, to keep it working to full capacity. Equipment must not lie idle. If it cannot be used in any particular place or on some special job, report to that effect should be made so the equipment can then be transferred to a job where it is needed.

The mention of equipment brings to mind cars and locomotives, and I wish to emphasize the great importance of preventing delay to cars, loaded or empty. We track men use thousands of cars and many locomotive-days in handling maintenance of way material. I am sure you have all read Ralph Budd's remarks addressed to shippers, stressing the great importance of the prompt handling of cars, and stating what it would mean in increased car supply if a delay of one day could be avoided. This would be equivalent to adding 99,600 cars to the nation's supply. We must do our part and set a good example.

When we consider materials, we might well take the first item in the track structure—ties. Already there has been a decided increase in the cost of ties, and they are becoming more and more difficult to get. Here we have a great opportunity to save money and conserve material. Steel is one of the strategic defense materials, and we know of the restrictions on its use and the difficulty in getting it at all. When we know that one mile of 112-lb. rail involves 176 tons of steel; that a mile of 131-lb. rail requires 206 tons; and that the tie plates, angle bars, bolts, spikes, anchors, and other fastenings required to lay a mile of rail weigh not much less than one-half the rail tonnage, we realize what an immense amount of steel is used in track construction and maintenance, and we promptly ask ourselves the question—What can we do about that?

The first responsibility in this regard rests with the rail manufacturers. They must give us good material,

\* Engineer Maintenance of Way, Chicago, Burlington & Quincy, Chicago.

and must not allow the present emergency to serve as an excuse for supplying inferior material. I believe the rail mills are doing their part; it is then up to us to insure in every way the maximum service life from this material. Proper care begins when the rail is being unloaded on the job. After the rail has been correctly laid, proper maintenance is necessary to insure good riding track and to reduce wear and tear on the material. Rail-end batter should be held to the minimum, especially on high-speed lines. The great progress made in recent years in the art of welding makes this possible, and every roadmaster should take full advantage of the savings that can be made. I do not want to suggest welding as a "cure all." It is not, but I know of no way in which money can be spent in track maintenance that will give as large a return.

Another thing we can do is to insist that scrap of all kinds be picked up every day and shipped in frequently. In this connection, while some may think it somewhat beyond our jurisdiction, I suggest and urge that every maintenance officer be on the alert to note and prompt to suggest unused tracks which he thinks might be taken up. The final decision is not made by us, but it is to the advantage of the maintenance department to get rid of every unneeded facility and so avoid any need of maintaining it.

Material and tools should not be ordered until needed, but I urge that you assist those charged with the responsibility of having material available when wanted, to do their job, which is a difficult one now, by advising them as far in advance as you can of any unusual need you may be facing for material. Let's help the purchasing agent by telling him through the proper channels what we expect to need and about when we will need it.

For years we have done all the things I have mentioned. They are recognized as good maintenance practice and good railroading. Heretofore, the main reasons advanced for these methods were efficiency and economy. Now we have another, still more compelling, reason—to save tools, equipment and materials in every way we can. We can do a great deal about it, and we are going to do it.

## Streamlining Maintenance In a National Defense Era

By A. E. Perlman\*

This country is facing a grave emergency, and the railroads—taking all in their stride,—are meeting all demands. Yet the railroads face an emergency more acute than that confronting any other industry in America. For we must look beyond this so-called defense era to the post-war days which are to come,—days when the great air transports released from military service will carry the major portion of our present long-haul passenger traffic, with an ever-increasing percentage of mail, express and freight;—when there will be a vastly improved network of highways, lowering the cost of truck transportation;—when pipe lines now being projected will convey part of the present rail traffic, and new inland waterways will carry a vastly augmented merchant marine.

We must face the future without wishful thinking if we are to keep the railroads dominant in the transportation industry—take advantage of every known improvement in methods and materials and make exhaustive research into newer and better practices. We must spend more time in selecting and training our men. Maintenance officers must be given the authority to carry out

\* Chief Engineer, Denver & Rio Grande Western, Denver, Colo.

their responsibilities properly and be permitted to make long-range programs. Construction and maintenance projects should be so scheduled and co-ordinated that modern machinery can be purchased and kept in operation the entire year. With such long-range planning and budgeting, materials can be ordered sufficiently in advance to prevent delays to the work.

Detailed unit costs must be furnished supervisors as a guide to the most efficient men, methods and materials, because without unit costs it is impossible to make authoritative recommendations for new types of equipment. Keeping proper costs also gives a factual record of operator efficiency, cost of delays and control of expenditures.

Today, through the use of photo-elastic methods, it is possible to secure substantial weight reduction in track materials by eliminating bulks which sustain no loads or play no part in supporting loads. Through these methods, we can determine where stresses will concentrate under a given load, and can also determine the intensity of those stresses in any portion of the material studied. Today, we can supplement our own calculations with scientific aids, which open new vistas to us in meeting problems of design. For years we have kept a record of failures in rail and fastenings, but today we can find the causes of these failures through this study of stress concentrations.

Slow orders due to slides and soft spots can be eliminated through a knowledge of soil mechanics and the assistance of competent geologists. Careful observations of the men in the field, brought to the attention of designers and planners in the office, are necessary to a proper balance in our operations. You will be surprised too, to find how many things we can learn from other industries. Today we must work with the view that every project we enter upon will give us a more permanent way, so that in the lean years to follow we will not be burdened with unproductive expenditures.

I hope that you will leave this meeting with the full realization that the defense era for the railroads will be most crucial after our country emerges from the production peaks into which chaotic world conditions have forced us. For then we will face a test requiring adjustment reaching far deeper than those of the last decade—a test in which our best defense will be a concerted offense, placing scientific research and thoughtful observation at work, unhampered by past practice.

## Maintaining Right-of-Way Fences— Organization and Methods

Well constructed and properly maintained fences were never needed more than they are today, according to the report of a committee of which F. J. Meyer, roadmaster, New York, Ontario & Western, was chairman. "For a number of years," it said, "fencing programs were carried out to such an extent that well-maintained fences were found almost everywhere along the railroad right of way." However, it pointed out that in recent years, most roads, for lack of funds, have had to limit maintenance largely to the track structure, and thus have long neglected their fences. Commenting on this situation, it said: "We are now faced with a problem not unlike that which confronted maintenance officers before the present fences were built. Much of the right of way, cleared and mowed for years, is now covered with weeds and brush, and, in many locations, it is with difficulty that traces of fences can be found. In fact, weeds flourish in many miles of track, so that weed burners and weed poisons must be used extensively. Obviously, cattle on the track may result in serious derailments."

Referring to the construction of fences, the committee

recommended consideration of the standards adopted by the American Railway Engineering Association. "Make-shift methods of fence maintenance," it said, "are not economical," and it questioned the economy of using old boiler flues, old pipes and old timber for posts. The cost of labor is a large item in fence maintenance, it pointed out, and must be very high when old ties and timber are worked up for fence posts in substitution for metal or treated timber posts.

Cautioning against over-building fences, it said that to get the greatest benefit from each dollar spent for fencing, only such fences should be maintained as are actually necessary to prevent stock from entering the right of way, pointing out that there are many plowed fields and other places where stock is not pastured, where it is economical to defer fencing. Unless required by law, it held also, fences should not be maintained between the right of way and adjacent highways. On the other hand, it said that an adequate fence of good appearance, built of good materials and to a standard providing for proper construction, should be maintained when and where required.

## Labor Needs In Face of Widespread Industrial Activity

By Fred S. Schwinn\*

We on the railways face and must find the answer to the problems of what to do to meet successfully the growing general demand for labor, and more labor, and of adjusting ourselves to the present and future conditions resulting from the national emergency. At the same time, we must also meet the greater demands on the railways, growing out of that emergency. Just where the American railroads must stand in this emergency is not difficult to visualize. They must carry by far the greater burden of the increased transportation requirements. As such, they may be considered to constitute the major defense industry. Every unit of our rapidly growing and expanding defense machine would be handicapped seriously by a breakdown of the railroad transportation system. Therefore, it is very apparent that the railroads must be operated both safely and efficiently—much more so now than in normal times.

The present shortage of industrial labor, already reaching serious proportions in some localities, is brought about by the demand for experienced men in all lines of endeavor related to our tremendous defense program. The curtailment of non-defense activities resulting from the diversion of certain raw materials to strictly defense requirements will, unquestionably, relieve this situation

to a large extent. But many manufacturing industries, fabricating plants and shipyards are asking for the services of your welders because they are experienced. The construction industry welcomes the services of your foremen. Your machine operators are in demand not only by industry generally, but by the army. Your laborers are also in demand, by both industry and the army. You are not unwilling to release those men who are needed and must be released to man the defense machine of our country adequately. But, with the responsibility that rests upon you, what can you do to meet these conditions and yet maintain properly the property placed in your care?

Probably more can be done through careful planning of program work than by any other single means. Track work should be spread as uniformly as practicable throughout every month of the year, and all work which can be performed satisfactorily in the winter months should be assigned to those months with the object of using a stable force throughout the year as nearly as possible. It is entirely practicable to minimize peak labor requirements to a large degree, and this should be done.

You can scan your maintenance programs further with the view of reducing the amount of work to be done to not exceed that actually now needed. Adequate supervision can do a great deal toward minimizing labor needs. Generally, your use of roadway machines has been accelerated by the necessity of offsetting, so far as possible, the rising cost of labor. In other words, the cost of equipment might not have been justified when lower labor rates prevailed, but as those rates have advanced, the use of labor-saving equipment has become more and more attractive and economical. We have found that these machines reduce our man-hour requirements materially, and, in many instances, will perform the required work more thoroughly than can possibly be done by hand.

In addition to the mechanization possibilities to which I have referred, you should look for and report any conditions which are forcing you to use an abnormal amount of labor. Do you have some place where your gangs are spending considerable of their time straightening and respiking ties that have been skewed by creeping rails, or in driving those rails back to redistribute the expansion gaps? Possibly a few additional rail anchors would eliminate this waste of labor. Or possibly you should direct the attention of your management to some unsatisfactory embankment condition which should be corrected by drainage or stabilization, and thereby save many hours of track labor annually. These are only examples of what you must always be looking for, and which are much more important under a heavy-traffic load than they were under normal conditions.

\* Assistant Chief Engineer, Missouri Pacific, Houston, Tex.

\* \* \*

The Modern Colonial-Style Passenger Station of the Central Vermont and Boston & Maine at White River Junction, Vt., Provides a Contrasting Chronological Background for the Ball-and-Cylinder Signal at the Railroad Grade Crossing There



# Carriers Blast Brotherhoods' Wage and Earning Estimates

Railroads begin testimony in reply to employees' demands for vacations with pay and wage increases

**E**STIMATES of railroad earnings for 1941 and the cost of wage increases which the brotherhoods made before the Emergency Board at Chicago were attacked in cross-examination by counsel for the railroads upon completion of the direct testimony of the 14 non-operating brotherhoods on September 26. These brotherhoods completed the presentation of their evidence on September 25, cross-examination was concluded on the following day and the five operating brotherhoods finished their case on October 2. The railroads began their reply to the demands of the 19 brotherhoods on the same day, to show that if the demands for increases in wages are granted, virtually all of the earnings of the railroads will be expropriated from the owners of the properties and turned over to the employees.

At the close of the session on October 1, the 14 non-operating brotherhoods had consumed 8 days and the 5 transportation brotherhoods 3 days of the total of 12 days allotted them for the presentation of their cases, while the carriers had used 9 hr. 25 min. in cross-examination.

Hearings will close on October 18 and oral arguments will be made on October 20. To expedite the work of the Board, counsel will file briefs on or before 5 p. m. on October 19 but will be permitted to file supplemental argument on the day following oral argument.

## Unions Estimate Wage Cost at \$775,000,000

Estimates of the cost of wage increases demanded by the 14 non-operating brotherhoods and by the 5 transportation brotherhoods and estimates of 1941 traffic and earnings made by H. A. Bacus, research director of the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, were attacked during cross-examination by J. Carter Fort, chief counsel for the Carriers' Joint Conference Committee. Mr. Bacus had testified that the cost of the demands would be \$775,000,000, or in round numbers \$800,000,000 a year, that the railroads will have a net income of \$900,000,000 and that since an increase in wages would be retroactive to July 10, 1941, the increase would cost the railroads only \$400,000,000 in 1941.

Included in Mr. Bacus' estimate of \$775,000,000 were: \$523,554,369 for the payroll cost of the 30 cents increase for pro rata hours; \$13,729,938 for the added payroll cost of the 30 cents increase for punitive hours, or a total of \$537,284,307, which would be the added cost of raising to 70 cents an hour the rate of employees who are receiving 40 cents or more; \$4,802,915 additional cost for employees receiving 36 cents and less than 37 cents; \$521,584 for employees receiving 37 cents and less than 38 cents; \$369,293 for those receiving 38 cents and less than 39 cents; \$112,221 for those receiving 39 cents and less than 40 cents, or a total of \$543,081,320 for the non-operating employees. To this would be

added \$179,952,636 for the transportation employees.

Mr. Fort disclosed that 1941 payrolls are running about 11 per cent higher than the 1940 payrolls upon which Mr. Bacus based his payroll increases and that if 11 per cent for this increase in payroll and six per cent for retirement and unemployment insurance were added to the \$775,000,000, the resulting total would be very close to the railroads estimate of \$900,000,000 which Mr. Bacus had contended was too high because it included increases in payroll incident to the Diesel requests which are not before the Emergency Board. Mr. Fort also disclosed that if this \$900,000,000 were capitalized at the same basic rate of interest that is now paid, it would be the same as adding \$22,000,000,000 to the indebtedness of the railroads and that the new \$22,000,000,000 indebtedness would take preference over all other indebtedness.

## \$1,222,046,000 Net Operating Income Estimated

Mr. Bacus had contended that the net railway operating income for 1941 would be \$1,222,046,000, based upon 42,418,670 carloads as forecasted by the Association of American Railroads, or \$1,318,916,000 based upon 44,000,000 carloads as forecasted in July, 1941, by Donald E. Church, economic analyst of the Bureau of Foreign and Domestic Commerce of the U. S. Department of Commerce and including estimated passenger revenues. His estimated income account for 1941 is as follows:

	On basis of 42,418,670 carloads originated (000)	Per cent of 1940	On basis of 44,000,000 carloads of 1940	Per cent of 1940	1940 (000)
Freight revenues .....	\$4,369,088	123	\$4,497,510	127	\$3,528,782
Passenger revenues .....	515,595	124	515,595	124	416,897
Other operating revenues..	458,480	130	471,693	135	350,923
Total railway operating revenues .....	\$5,331,164	124	\$5,484,798	128	\$4,296,601
Operating expenses .....	3,493,651	113	3,536,281	115	3,089,417
Equipment and joint facility rents .....	125,000	97	125,000	97	128,655
Railway tax accruals .....	490,467	124	504,601	127	396,395
Net railway operating income .....	\$1,222,046	179	\$1,318,916	193	\$682,133
Other income .....	180,000	107	180,000	107	168,956
Total income .....	\$1,404,046	165	\$1,498,916	175	\$851,089
Misc. deductions from income .....	27,664	100	27,664	100	27,664
Income available for fixed charges .....	\$1,374,382	167	\$1,471,252	180	\$823,425
Interest accrued .....	457,806	100	457,806	100	457,806
Other fixed charges .....	154,161	104	154,161	104	148,558
Contingent interest .....	26,106	100	26,106	100	26,106
Net income .....	\$736,309	388	\$833,179	435	\$190,955

"The interest the railroads will have to pay should be distinguished from the interest which accrues under the old fixed charges," Mr. Bacus said. "We believe that after interest and fixed charges, they will have left about \$736,000,000 on the basis of 42,000,000 carloads or \$833,000,000 on the basis of 44,000,000 carloads. However, we think that the net income figure will be raised

by more than \$100,000,000 or to \$836,000,000 and \$933,000,000 respectively, due to the fact that the interest on the fixed charges of the railroads now in receivership will not actually be paid."

Mr. Fort showed on cross-examination that carloadings will be affected by a lower production of consumer goods as a result of defense curtailment, and a 10 per cent decline in the number of men producing consumer goods. He also challenged Mr. Bacus' estimate of \$786,000,000 as the net railway operating income for the second half of 1941, showing that this would be \$350,000,000 more than was earned in the second half of 1940 and that the increases in wages, about \$450,000,000 for the second half of 1941, would be \$100,000,000 more than the increase Mr. Bacus had claimed would occur in the second half of 1941.

Cross-examination developed the fact that 70 per cent of the net income of all railroads in 1940 was earned by four railroads and that these comprised only 10 per cent of the total mileage, while 35 per cent of the mileage operated in that year earned insufficient net income to meet accrued fixed charges.

In reply to J. C. Bonbright's question, "Are you assuming no change in railway rates?" Mr. Bacus said, "I am assuming no change in rates, for present freight rates were fixed in 1938, primarily on the basis of the financial needs of the railroads at a time when the financial condition of the railroad industry was probably the worst in history. We think that some competitive rates, not only of the railroads but of other forms of competition should be raised to a competency level. No rate increases are needed to meet these requests."

"Then, as I understand your point," Mr. Bonbright queried, "you contend that these increases can be granted without any rate increases and that the wage increases will not impose an undue burden on the railroads and secondly that if you were found wrong on the first point and an increase in railroad rates is necessary in order to permit the railroads to meet the extra expense of these higher wages, then such an increase in railroad rates should be made?" The answer was yes, generally speaking.

Mr. Fort read a statement from the Machinists Monthly Journal for September which said, "There is at the present time almost unanimous opinion among employers, statesmen, educators and everyone who has ventured a guess at what will follow this Defense Program, that we will face the greatest depression this country has ever experienced. So we must prepare now, not when the tide begins to move away from us." Mr. Bacus was of the opinion that the United States will become the economic arsenal of democracy and that at the end of the defense effort, this country will enter on the largest expansion in general production and general activity that it has ever known in its history in an effort to rebuild cities that have been destroyed.

### Big Five Brotherhoods Base Case on Output

The five operating brotherhoods based their case on the assumption that output per employee has increased, that more skill and responsibility are required, that hazard is greater, that the difference between the amount earned and the amount paid is increasing, that wages in other industries are moving upward while those in the railroad industry are not and that the cost of living has risen faster than the pay of railroad employees. They presented figures on basic wages of transportation employees and on operating averages to supplement the statistical data introduced by the 14 non-operating brotherhoods.

The testimony related to the skill of the work done, time paid for but not worked, dual basis of pay, "time spent and not paid for" while away from home and the financial condition of the railroads. In addition they suggested that the members of the Board ride with the enginemen of a passenger and a freight train and in a caboose to familiarize themselves with the duties and working conditions of these employees.

The Board accepted the suggestion but requested that the selection of trains and yards to be visited be worked out jointly by both parties, and that a representative of each party accompany the Board. Because of the very heavy program of the Board and the long hours that it spends in executive session and in studying the record, the chairman asked that the visitations be arranged for Saturday afternoons and Sunday mornings.

Carl J. Goff, assistant president of the Brotherhood of Locomotive Firemen and Enginemen, outlined the history of the controversy. H. W. Fraser, president of the order of Railway Conductors, gave the reasons for the wage movement, and described the duties of conductors and brakemen; Alvanley Johnston, grand chief engineer of the Brotherhood of Locomotive Engineers, outlined the duties of enginemen and testified that they are doing more work because of longer trains and higher speeds. Fred Maneely, a conductor on the Illinois Central, described his freight run from Chicago to Champaign, Ill. and emphasized the skill required in detecting hot boxes, the strain on employees resulting from the increased speed of trains and time away from home. J. P. Shields, a former engineman of the Union Pacific and assistant to the grand chief of the Brotherhood of Locomotive Engineers, gave employees credit for the increased output resulting from the application of the superheater, the feed water heater and improved braking equipment. Knute Carlson, one of the enginemen operating the Denver Zephyr of the Chicago, Burlington & Quincy between Lincoln, Neb., and Hastings, testified to counteract the publicity given the run of 97 miles on which the engineman receives a month's pay for 53 hr. on duty.

T. C. Cashen, president of the Switchmen's Union of North America, contrasted hourly rates of railroad locomotive foremen, firemen and helpers with those employed in the Ford Motor Company's switching yard at Detroit. F. Whitney, president of the Brotherhood of Railroad Trainmen, testified as to the duties, working conditions and responsibilities of employees in train and yard service, quoting from the publication Quiz of the Association of American Railroads to emphasize his remarks. He also discussed alleged financial abuses. Charles Decker, a dining car steward on the Southern Pacific, cited figures to show that dining car stewards receive less than train porters. H. J. Arries, statistician for the Brotherhood of Locomotive Firemen and Enginemen, presented exhibits showing the changes made in the basic daily wage rates of enginemen, motormen, firemen, firemen helpers, hostlers and hostler helpers in 1920, 1921, 1924, 1928 and 1937. W. G. Cantley, manager of the statistical bureau of the Brotherhood of Railroad Trainmen, introduced exhibits showing basic rates of pay and average annual earnings for road passenger and freight conductors, trainmen and yardmen. John H. Cover, a consulting economist, retained by the five transportation brotherhoods estimated future revenues, expenses and payrolls. The increase in the payroll of the transportation employees on the basis of 44,000,000 carloads in 1941 would be \$213,350,000 according to his figures.

Although much of the testimony of the witnesses for the five operating brotherhoods was given in general terms that were designed to emphasize the major con-

tentions of the five transportation brotherhoods, counsel for the carriers succeeded in refuting many of the statements. Cross-examination of witnesses disclosed that instead of the hazard to employees being great, it has been on the decrease; that instead of frequent occurrences of hot boxes, they have been almost eliminated by improved design and lubrication; that instead of trains being much longer, the average length was 49.7 cars in 1940 as compared with 47.6 cars in 1929; and that instead of employees being away from home much of the time and inconvenienced, they are away from home less now than formerly because of the terminal rule.

Cross-examination also showed that employees are free to take time off, and when they do can still make their mileage.

Mr. Cashen testified that foremen, helpers, enginemen and firemen in the Ford yard at Detroit receive wage rates that are 46, 45, 38 and 61 per cent, respectively, higher than those received by the same employees on the railroads. Mr. Fort disclosed that the rates were made higher to offset the advantages enjoyed by employees in railroad service.

### Diesel Demands Injected

The Diesel demand of the engineers which was made on March 18, 1939, and which calls for rates of pay based on the horsepower of Diesel locomotives instead of weights on drivers, and for an assistant engineer in the engine rooms of certain types of Diesel locomotives, and the demand of the firemen, made on May 10, 1941, which involves higher pay on Diesel and coal-burning locomotives and a fireman-helper on each unit of locomotive, were injected by Mr. Fort during the cross-examination of Mr. Goff. Charles M. Hay, counsel for the five transportation brotherhoods objected to questions relating to the Diesel demands on the ground that the subject is not before the Board. Mr. Fort argued that the Diesel request is, in effect, a disguise, is part of the general wage request, is cumulative in connection with the matters before the Board, was started before the general wage increase, is still alive and pending, is merely side tracked and will be reasserted on top of the general wage request. It has a bearing, he said, both on the threatened burden upon the railroad industry and upon the level of wages.

Chairman Morse ruled that the question asked the witness was a proper one. It is proper, he said, from the standpoint of giving the Board the background of the surrounding facts and circumstances of the wage case. It is understood, he continued, that the Board will not pass judgment on the matters in the dispute over Diesel locomotives.

### Whitney Would Like Presidential Action Without Strike Vote

Following remarks made by Mr. Whitney to the chairman of the Board before the hearing was called to order on the afternoon of September 29, the chairman introduced the subject of strike ballots and their cost so that observations might be in the record "for such weight and consideration as the Board might wish to give them in the preparation of its report." He asked whether the brotherhoods are of the opinion that it is highly desirable that ways and means be provided in the existing laws so that an expenditure of \$100,000, which, according to Mr. Whitney, the brotherhoods incurred in taking the strike vote, could be saved. Mr. Whitney, speaking for his organization, said that it is unfortunate that we

are obliged to spend a large amount of money to secure a strike vote merely to say that an emergency exists in order to secure the services of a President's Fact Finding Board. Mr. Fort made Mr. Whitney admit that the brotherhoods would not have had to pay \$100,000 to get a decision by an arbitration board.

### Brotherhoods Defend Dual System of Pay

The dual system of pay was brought into the hearing by Mr. Goff to acquaint the Board with the method of figuring pay for enginemen, firemen, switchmen, switch tenders, hostlers and hostler helpers. In answer to a query as to the purpose of the testimony and cross-examination, Mr. Fort explained that while there was no question before the Board involving the dual system of pay, he was trying to show that under that system there has been an automatic increase in the earnings per hour actually worked because the daily basic rate has been earned more rapidly as the speed of trains has increased.

Mr. Fort was not satisfied with Mr. Goff's explanation and testimony, in which he said the proposal of the five transportation brotherhoods contemplates that the 30 per cent increase be applied to all arbitraries, miscellaneous rates, or special allowances, and to daily and monthly guarantees. Cross-examination showed that compensation may be divided into three classes—straight time compensation, overtime compensation and constructive allowances. If a man works less than 8 hr. and runs less than 100 miles, the cross-examination showed, he still received the daily rate of pay even though the mileage may be as low as 50. In addition, there are other daily minima which are more than the daily rate. Minimum daily earnings of passenger firemen and enginemen apply each time that they are called for work, and the minimum is greater than the daily rate or the rate per 100 miles. In addition, there are certain monthly guarantees for conductors.

In 1926, Mr. Fort concluded from Mr. Goff's figures, the ratio of hours actually worked to hours paid for was 87.6; in 1929 84.8; and in 1940 75.7 per cent. Therefore, the cross-examination showed, these men are now earning their money when they are paid on the straight time basis, 16 per cent faster than they were in 1926, and 13 per cent faster than in 1929.

### Should Any Increase Be On Blanket Basis?

"Without any intention of seeming to indicate that any tentative conclusion of the Board has been reached," the chairman raised a hypothetical question which he asked counsel for each side to answer. "Suppose," the chairman said, "that the Board should conclude that underpaid employees of a class should have a wage modification. Is it the position of counsel that the Board should make a wage recommendation as to the employees in this class, or is it the position of counsel that such wage recommendation must apply to all employee classifications on a blanket basis?"

Others testifying were: H. F. McGuire, a passenger conductor on the Chesapeake & Ohio; George H. Bales a passenger conductor on the Jeffersonian of the Pennsylvania between Indianapolis, Ind., and Columbus, Ohio; A. B. Dillon, formerly a conductor on the Denver & Rio Grande Western and now general chairman for the Order of Railway Conductors; L. F. Dwyer, a suburban passenger conductor on the Chicago & North Western; and W. B. Woodward, Jr., general chairman of the Brotherhood of Locomotive Engineers on the Pennsylvania, Lines East.

# Economical Boiler Maintenance Urged at Chicago Meeting

Master Boiler Makers recognize need of better materials, equipment and labor to meet today's problems

**T**HE twenty-eighth annual meeting of the Master Boiler Makers' Association was held at the Hotel Sherman, Chicago, on September 23 and 24, with an attendance of about 300 members and guests. After meeting at a joint session with the three other mechanical department associations to listen to an address by V. R. Hawthorne, executive vice-chairman, Mechanical Division, Association of American Railroads, the Master Boiler Makers opened their program with a short address by President C. W. Buffington, general master boiler maker, Chesapeake & Ohio.

Five committee reports and three individual papers were included in the program of the meeting. The papers were by E. M. Grime, engineer of water service, Northern Pacific, on Recent Trends in Boiler Water Treatment; by Ray McBrian, engineer of standards and research, Denver and Rio Grande Western, on Steel for Firebox Boilers; and by F. P. Houston of the International Nickel Company, on Staybolts.

## Election of Officers

At the last session of the meeting the following officers were elected to serve during the ensuing year: President, Myron C. France, general boiler foreman, Chicago, St. Paul, Minneapolis and Omaha, St. Paul, Minn.; vice-president and chairman of the executive board, Frank A. Longo, general boiler inspector, Southern Pacific, Red Wood City, Cal.; secretary-treasurer, A. F. Stiglmeier, general supervisor of boilers and welding, New York Central, Albany, N. Y.; executive board members: secretary, Frank Yochem, general boiler inspector, Missouri Pacific, St. Louis, Mo.; Sigurd Christoperson, supervisor of boiler inspection and maintenance, New York, New Haven and Hartford, East Milton, Mass.; R. W. Barrett, chief boiler inspector, Canadian National, Toronto, Ont., and E. H. Gilley, general boiler foreman, Grand Trunk Western, Battle Creek, Mich. The following continue as members of the executive committee: Charles J. Klein, retired locomotive inspector, Interstate Commerce Commission, Albany, N. Y.; E. E. Owens, general boiler inspector, Union Pacific, North Platte, Neb.; Frank A. Longo, general boiler inspector, Southern Pacific, Red Wood City, Cal.; B. C. King, general boiler inspector, Northern Pacific, St. Paul, Minn.; Frank Yochem, general boiler inspector, Missouri Pacific, St. Louis, Mo.; and Edward H. Heidel, general boiler foreman, Chicago, Milwaukee, St. Paul and Pacific, Milwaukee, Wis.

In the opening paragraph of his address, C. B. Hitch, superintendent of motive power, Chesapeake & Ohio, stated that never was there a time in the history of our railroads when the importance and responsibility of good supervision in the boiler department should be given the greater consideration. "You are aware," he continued, "of the increased difficulty and delay in obtaining various materials, particularly boiler steel. This situation is likely to continue for some time and probably will become

more difficult before it improves. The conservation of material is, therefore, of the utmost importance."

Developing his subject further, he continued: "It may be necessary, in many cases, to resort to patching where, under more favorable conditions, new construction would otherwise be used. To determine the extent to which patching should be done will require a high degree of skill and judgment on the part of the boiler-shop supervision, since strength and safety must not be sacrificed.

"The conservation of material will require a high degree of skill and workmanship on the part of boiler-shop labor, or considerable material can be spoiled or cised. The problem is complicated by demand for skilled labor in the defense industries which has decreased the supply available to the railroads. A large number of men have been called back who have been out of the railroad service on furlough for some time and, in some instances, the employment of new men who are not familiar with railroad work and who must be broken in and trained before they can become efficient workmen. It is the duty of the supervising officers to provide the necessary training. This lack of well trained men can be aided considerably by maintaining a full quota of apprentices and by seeing that they receive proper general training.

"The increased demand for available locomotives calls for increased shop output. It is up to the supervision to see that the necessary work is performed and that the output is not increased at the expense of good workmanship. If the work is scheduled and the officers in charge of the main shops are informed a sufficient length of time in advance as to the condition of the boiler on each locomotive, they can and will have on hand the necessary materials and labor to handle the work promptly and efficiently."

## Railroads Need Modern Shop Tools

In the report on the Application and Maintenance of Flues and Tubes, the committee included the following paragraphs in the introduction:

Fortunately for the modern railroad shop, new and improved machinery can now be had to make the maintenance of flues an easier and simpler process. But unfortunately, we believe today that the locomotive shops are the most woefully lacking in the supply of suitable and up-to-date machine tools of any other large manufacturing industry in the country. Modern tools are being brought out every year that will improve and cheapen production.

It is our duty to see that our shops are equipped to the best of our ability with machine tools that will properly and economically handle our work.

Of particular interest in the report on Treating Boiler Feedwater Chemically were the statements made concerning the money the railroads can save by chemically treating all boiler feedwaters.

The committee stated that: The railroads of the United

States are reported to use some 350 billion gal. of water per year. We believe that only about half of the water used for boiler feed purposes is properly treated at the present time. In order to arrive at the savings that have been made on a lump sum basis it is necessary to estimate the pounds of scale-forming matter eliminated by water treatment. This method can be relied upon as a conservative basis of approach, as we know that the railroads treated their worst waters first.

We feel a conservative estimate of the scale-forming matter that is being neutralized in the water that is now being treated would be approximately 262,500,000 lb. This amount of scale would otherwise have been formed on the heating surfaces of the locomotive boilers using these water supplies. Previous to water treatment this scale would build up in the boilers, causing loss of ability to make steam and at the same time greatly increasing the fuel bill. Finally it would become necessary to remove flues and mechanically clean these boilers before they would be fit for another term of service. Frequently firebox side sheets and flues lasted a matter of months under such conditions whereas, with proper water treatment, the life of the fireboxes may be extended indefinitely and flues go four or more years for renewal or at least give a greatly increased mileage between renewals in those services where mileage rather than years of service is the controlling factor on such work.

In 1924, after exhaustive study of the subject, the Water Service Committee of the A. R. E. A. concluded that a conservative average saving to the railroads from the elimination of scale could be estimated at 13 cents per lb. of scale-forming matter removed. Since that time a large Eastern road has made a careful check of its figures both before and after the adoption of water treatment, and for the year of 1923 they found that their savings were an average of 19 per cent greater than the expected savings figured at 13 cents per lb.

One member reports that the railroad he represents has saved, in the last decade since water treatment was extended on his road, in washouts alone,  $1\frac{1}{4}$  cents per mile.

All the committee members reported that their roads had been able, where 100 per cent treatment was used, greatly to extend the washout periods. Another member reports his railroad has effected a saving of 1.2 cents per mile in boiler makers' payroll costs, and  $\frac{2}{3}$  cents saving in fuel per mile since going from partial to 100 per cent boiler feedwater treatment. From the available data, it would indicate that when all savings made possible by complete treatment are taken into account, your road should save from 4 to 7 cents per locomotive mile.

Since the proven savings due to water treatment are so great and since there is available to the railroads a further savings of upwards of \$25,000,000 per year through the extension of water treatment to the remaining untreated water supplies, we unreservedly put ourselves on record as recommending the completion of the water treatment program at the earliest moment, not only for the savings to be realized, but also to obtain greater availability of our power to assist in handling the greatly increased National Defense traffic.

#### Other Committee Reports

The Committee reports presented at the meeting were as follows. Shop Kinks and New Ways of Doing Things in the Boiler Shop, chairman Sigurd Christopherson, supervisor of boilers and maintenance, New York, New Haven & Hartford; Application and Maintenance of Flue, Tubes and Arch Tubes, chairman Frank A. Longo, general boiler inspector, Southern Pacific; Treating

Feedwater Chemically, chairman Carl A. Harper, master boiler inspector, Canadian National; Application of Straight versus Tapered Radial Staybolts, chairman R. W. Barrett, chief boiler inspector, Canadian National; and Application of Iron, Steel and Alloy Rivets, chairman A. G. Trumbull, chief mechanical engineer, advisory mechanical committee, Chesapeake & Ohio.

## Personnel and Repair Program Discussed

**D**URING the two-day meeting of the Locomotive Maintenance Officers' Association held at the Hotel Sherman, Chicago, September 23 and 24, five committee reports were presented to the 115 members who registered for the four sessions. Following a joint meeting of the Co-ordinated Associations, which was addressed by V. R. Hawthorne, executive vice-chairman, A. A. R. Mechanical Division the first session of the 1941 annual meeting was called to order by the Association's president J. C. Miller, general foreman, New York, Chicago & St. Louis.

The committee reports presented were on the following subjects: Methods for aligning frames, wheels and boxes; apprenticeship; inspection and maintenance of mechanical lubricators; description and operation of HSC air-brake equipment, and a survey of the use of high-speed and carbide tool steels in locomotive machining operations. In the first-mentioned report the committee presented the details of a suggested method for assuring the positive alignment of the running-gear members of a steam locomotive while undergoing repairs in the back shop and a method by which locomotives can be checked to determine whether or not wheels, bearings and frame are in line as they should be. The committee presenting the report on lubricators went into considerable detail in suggesting methods for the inspection, testing and general maintenance of several types of mechanical lubricators which are widely used in this country. The air brake report was designed to acquaint the men who will be called on to maintain HSC brake equipment with the equipment itself and the manner in which it functions.

The report on shop tools was essentially a progress report in which tabulations were made to show the types of tool steels that are being used in the machining of a group of locomotive parts and the results that are being obtained on seven roads by the use of modern tool steels as compared with results previously obtained with the tool steels formerly used on the same machine and job. The report on apprenticeship will be the subject of an article in a subsequent issue.

The following officers and new members of the executive committee were elected at this meeting: President, J. E. Goodwin, master mechanic, Missouri Pacific (I.-G.N.), San Antonio, Texas; first vice-president, F. J. Topping, master mechanic, Chesapeake & Ohio, Hinton, W. Va.; second vice-president, S. O. Rentschler, general foreman, Missouri Pacific, Sedalia, Mo.; third vice-president, C. D. Allen, master mechanic, Chesapeake & Ohio, Silver Grove, Ky. C. M. Lipscomb, Missouri Pacific, No. Little Rock, Ark. was appointed secretary-treasurer. Three members of the executive committee were elected for two-year terms. These were W. E. Vergan, supervisor air brakes, Missouri-Kansas-Texas, Denison, Texas; G. A. Silva, shop superintendent, Boston & Maine, No. Billerica, Mass., and G. E. Bell, general foreman, Illinois Central, McComb, Miss.

# T. & T. Section Meets in Cincinnati

Points out methods of expediting railroad operations and effecting economies by modern communication facilities



G. R. Stewart, Illinois Central Chairman

**A**T the twenty-second annual convention of the Telegraph and Telephone Section of the Association of American Railroads in Cincinnati on September 23-25, the major portion of the discussions dealt with problems of increasing the capacity of railroad communication systems to meet the requirements of the present emergency, as well as of the future, on an economical basis. G. R. Stewart, telegraph and telephone engineer of the Illinois Central, presided as chairman at this convention, which was attended by 143 railroad members, as well as 101 affiliated members representing commercial communication companies and manufacturers.

## Chairman Encouraged Efficiency

In his opening address, Chairman Stewart called attention to the fact that although train dispatching is of primary importance, it is only one part of the communication facilities which are required for the efficient operation of railroads today. The communication requirements are increasing, and must be met or shipments will be delayed in transit. In order to minimize delay in yards, the consists of trains are being transmitted to these yards before the arrival of trains. Information concerning the exact time at which cars should be spotted for immediate loading, their progress in transit and the time of their arrival facilitate prompt unloading and save car time. By these and other methods, increased utilization of freight cars to the extent of thousands of car days annually can be obtained.

Likewise, Chairman Stewart pointed out that problems of administration, involving men at different locations on a railroad, must be discussed in order to arrive at decisions at once, rather than waiting hours or days. Similarly, the work of thousands of railroad men must be made to "click." Our problem, he said, is not only to provide additional communication facilities, but, as a part of the "all out" national defense, to utilize these facilities most efficiently. Before starting a telephone conversation, a railroad man should know what he is to talk about, and say it in the fewest words consistent with efficiency. Estimating that the average telephone conversation lasts four minutes, a 33 per cent increase in the number of conversations could be handled if this could be reduced to an average of three minutes.

Three addresses were presented during the convention. R. V. Fletcher, vice-president and general counsel, A. A.

R., spoke on the subject, "After Hitler, What," in which he discussed the capacity of the railroads to handle any volume of traffic that may be imposed as a result of the National Defense Program. He explained the provisions of the Transportation Act of 1940, and discussed the results which may be expected as a consequence of the findings of the Investigation and Research Board which has been appointed in accordance with this act. He encouraged his listeners to begin now to plan for the day when we are no longer servants of the god of war, but rather servants of industry, carried on by peoples who again walk in the paths of peace.

A. N. Williams, president of the Western Union Telegraph Company, discussed the history of the simultaneous growth of the Western Union Telegraph Company and the railroads, pointing out the mutual advantages of co-ordination and co-operation, with respect to the design, construction and operation of communication facilities.

Holcomb Parkes, assistant director of public relations, A. A. R., encouraged his listeners to look beyond their daily duties, to learn something of the social economic and political significance of their work. This study is desirable, he said, to counteract hostile ideologies in a period of world-wide foment which feeds on doubt, confusion and muddy thinking; a period that will inevitably bring attack upon our industry because it symbolizes true democracy, private initiative, private enterprise, the successful fusion of capital, genius and labor to enrich a free nation and all its peoples.

Colonel Carl R. Gray, Jr., Engr. Res., executive vice-president, C. St. P. M. & O., and manager, Military Railway Service, explained in detail the organizations which have been established to take over the construction and operations of standard steam railroads in the theatre of military operations, if and when the United States may participate in war. A training school has been established at Camp Claiborne, La., where a railroad is being constructed and manned to serve various camps as well as war training areas. Various railroads have agreed to furnish trained railroad men for 55 battalions. Officers and men will be assigned to duties similar to their present occupation on railroads, and their titles will correspond.

Some of the speakers mentioned above, as well as officers of the T. & T. Section, took part in programs scheduled on four radio broadcasting stations in Cin-

cinnati at various hours during the three days of the convention. Arrangements for these radio programs, as well as newspaper publicity concerning the T. & T. Section convention, were arranged by A. R. Beatty, special representative of the director of public relations, A. A. R., who also took part in the radio programs.

### Committee Reports and Papers

The program included the presentation and discussion of reports of seven standing committees. The work of three of these committees was handled by sub-committees, making, in effect, a total of 13 separate committee reports, which dealt with 33 topics relative to outside plant, 11 relative to inside plant, 16 new developments, 8 operation problems and 2 topics on inductive interference. Reports presented as information were accepted as such. With the exception of the specification on galvanized iron wire, which was withdrawn by the committee to be combined with another specification, all of the instructions and specifications included in the Advance Notice were accepted, as revised, for submission to letter ballot for inclusion in the Manual. In many instances following the discussion of reports, the chairman changed the recommendation from "presented for discussion," as shown in the Advance Notice, to "acceptance for letter ballot." In addition to the committee reports, the technical program included the presentation of papers on Advances in Plant Practice by C. G. Sinclair, Jr., American Telegraph & Telephone Company; and on Facsimile Communication, by R. J. Wise, Western Union Telegraph Company.

Much of the information in the committee reports and papers was of a highly technical nature, of interest primarily to engineers in the railway communication field, nevertheless, interwoven in these proceedings and discussions were numerous statements concerning new developments, changes in practice and utilization of communication facilities which are of interest to railroad men in all departments as users of such facilities in the conduct of their work.

The following report of this convention, therefore, presents a brief summary of those matters which are of general railroad interest.

### Facsimile Communication

The paper on Facsimile Communication by Mr. Wise was illustrated by lantern slides, and was followed by a demonstration of two types of this equipment which are adaptable to railroad requirements. In brief, facsimile equipment will produce, at the distant office, an exact full-size duplicate of a handwritten or typed message, a sketch, a drawing or a legal paper. One form of the apparatus transmits at the rate of 14 square inches per minute, which, based on single-spaced typewriting, totals 140 words per minute. Using machines capable of either transmitting or receiving, the facsimile system is now being employed for through trunk line service between remotely located cities, as, for example, between Buffalo, N. Y., and New York, as well as between New York and Chicago.

The efficiency of facsimile communication as compared with telegraph printer service was explained by an example. If four fully-loaded trunk lines using telegraph printers are in service between Cincinnati, Ohio, and St. Louis, Mo., handling a total of 120 words per minute in each direction, four sending operators and a clerk are required at each of the two offices. By replacing the printers with facsimile equipment, including a sending machine and a receiving machine in each

office, 180 words can be handled in each direction per minute, by one clerk in each office. The efficiency of utilization of facsimile equipment in the transmission of messages is based on the covering of the major portion of the sheet with single-spaced typewriting characters. In discussing this paper, some railroad men expressed opinions that tabular matter, such as train consists, involving considerable areas of open space, can be transmitted more efficiently by teletype. A representative of one large road, when discussing this subject, explained that a concentration unit, including a combination sending and receiving machine, could be located in his telegraph office in the Cincinnati area to be worked with similar machines at various outlying offices, as, for example, in freight stations and yards of his road, as well as those of connecting lines, thus expediting service by obviating delays now occasioned by the delivery and pickup of messages by messenger boys.

As explained by a representative of the Pennsylvania, which has placed orders for facsimile equipment, that road proposes to install a combination sending and receiving machine in its office at Philadelphia, to be connected to a similar machine in its principal shops at Altoona, Pa. The system will be used to transmit messages, although the principal advantage will be to transmit sketches or small drawings. If a message is addressed to more than one person at the receiving station, as many as four copies can be made from the original by using the hectograph duplicating method.

### Train Orders by Facsimile

In New York, for example, the Western Union has installed facsimile sending machines in offices of patrons. When sending a handwritten or typewritten message, the patrons inserts the message in a slot in the machine, and pushes a button, and a facsimile of that message is produced in a centrally-located Western Union office, from which it is transmitted to the addressee by the conventional form of telegraph. The advantage of such practice is that the public can be served better because messages are sent to the Western Union central office at once, rather than introducing the delay occasioned by messenger service.

The Pennsylvania has ordered one-way facsimile machines, for use in sending messages from a central point to unattended offices, rather than the reverse. For example, train orders will be sent in the usual manner from the dispatcher to an operator at an office, where there is a facsimile sending machine which can be connected to a receiving machine at any one of several unattended block stations. Having copied a train order in the usual manner, the operator places it in the sending machine, and two or more copies, as required, are reproduced on standard train-order forms at the outlying block office, where they are picked up by a member of the train crew to which the order is addressed. Lamps on the sending machine indicate that the receiving machine is operating, and that paper is in place for reproducing the message.

In the further discussion of this paper, statements were made to the effect that facsimile equipment could be operated over ordinary line wire circuits or by means of carrier currents superimposed on existing wires used also for conventional types of circuits. The sending and receiving machines are driven by synchronous a-c. motors of standard 60-cycle frequency. If the two stations are not fed from the same power source the two machines are kept "in step" by special controls. If one or more of the facsimile machines is to be located at a place where no a-c. power is available, and, therefore,

d-c. from battery must be used, a special form of "stop-start" control can be applied.

### Freight Yard Communication

The report of one of the committees included explanations of systems for telephone communication between the humpmaster and the enginemen of yard locomotives used for pushing cars up to the hump in freight classification yards, the equipment for the installations discussed having been furnished by the Union Switch & Signal Company. Numerous questions were asked concerning the need for such equipment, and one man asked how the humpmaster knew whether the engineman had heard and understood the instructions. J. L. Niese (N. Y. C.), chairman of the committee, explained that the installation in the Sharonville yard near Cincinnati on his road was operating satisfactorily. He stated that no provision was made for the engineman to acknowledge receipt of instructions. H. W. Burwell (L. & N.) explained that the installation at DeCoursey yard on the Louisville & Nashville near Cincinnati includes indication lamps. When the humpmaster is preparing to talk to the engineman, a red lamp is displayed in the cab of the locomotive, and, following reproduction of the humpmaster's order, the red lamp is extinguished and a green lamp is lighted. The engineman then proceeds according to the last instructions received until the green lamp is extinguished and the red one appears. This communication is of benefit especially during stormy and foggy weather when aspects of fixed wayside signals cannot be seen easily.

S. W. Williams (Penna.) described the yard communication system installed by the Pennsylvania in a yard at Columbus, Ohio, in which a special tone is produced by the loudspeaker in the locomotive as evidence that the equipment is in operating condition. When the engineman hears and understands the instruction, he acknowledges by two short blasts of the locomotive whistle. The system is effective not only when the locomotive is pushing cars up to the hump, but also when it is down in the classification yard while "trimming." Mr. Miller stated that the yard forces are enthusiastic concerning the time saved by the use of the communication system. The engineman can be informed concerning the number of cars in each of the cuts coming up to the hump, for example "next six cuts one car each," or "next cut four cars." The engineman can then adjust the speed and keep moving rather than being required to stop and start as a means of permitting time at the hump for cutting cars and adjusting the running space between cuts. One set of locomotive equipment serves on any one of three locomotives which may be assigned to this service. The equipment can be transferred from one locomotive to another in a few minutes.

Dr. L. O. Grondahl, U. S. & S. Co., stated that an installation now under construction at Roanoke, Va., on the Norfolk & Western, provides means for the engineman to talk to the humpmaster, as well as vice versa, and, furthermore, continuously operated signals will be provided in the locomotive cab. Mr. Niese stated that the two-way system may be desirable, but he questioned whether the additional cost would be justified, because, based on his experience, the engineman has no business or occasion to talk back to the humpmaster.

### New Developments

The Committee on Research and Development reported on eight new devices; an advance report issued in January dealt with 35 new devices and still another re-

port to be issued next month will have to do with several more such items. One of these devices is designed to control automatically the volume of the output of loudspeakers in dispatchers' offices. An extended illustrated report explained means for minimizing the detrimental effects on communication lines of aurora borealis, otherwise known as magnetic storms or northern lights, including one proposed method that reduces interference 50 per cent and another 90 per cent.

Other new devices described by the committee included a transformer which stabilizes line voltage, a telephone designed to resist the effects of explosions in the vicinity, and a machine for boring holes in clay, conglomerate, sand or shale. By means of still another device, holes 2½ in. to 14 in. in diameter and up to 120 ft. in length can be bored under streets, railroad embankments, etc., to permit conduits and cables to be installed economically and without disturbing street pavements or railroad tracks.

### Economic Problems of Transpositions

Large expenditures and important operating problems must be considered when determining policies involving transpositions, which, in brief, consist of changing the pin positions of line wires to prevent cross talk caused by inductive interference between circuits. In his address, A. N. Williams, president of the Western Union Telegraph Company, discussed briefly the various forms of circuits used to handle two or more messages over one wire. These include the duplex, quadruplex and multiplex, as well as carrier systems, for use in connection with telegraph, telephone, teletype and facsimile. He also mentioned a new development termed verioplex, which is understood to be a form of frequency modulation.

The line wire transpositions required to permit successful operation of carrier systems were explained in a 58-page report presented for adoption for letter ballot for inclusion in the Manual. A representative of the New York Central inquired whether this complexity of transpositions was necessary when a railroad is preparing to install carrier. F. H. Menagh (Erie), stated that his road had installed one H-type carrier (single-channel) between Cleveland, Ohio, and Jersey City, N. J., and another between Cleveland and Youngstown, Ohio, on which the two circuits are on the same pole line for approximately 65 miles, and, furthermore, the installation of the carrier did not necessitate transpositions beyond those previously in service for conventional wire circuits handling wire frequencies. Questions were asked concerning the transpositions required on the A. T. & S. F., when carrier was installed. (See article on page 417 of the *Railway Age* for September 13.) T. F. Cofer (Western Union Telegraph Company), who was familiar with the project, replied that the Santa Fe installation included transposition according to the committee's recommendations. He admitted that the transposition changes were complex and tedious, but explained that such changes were necessary if a railroad wants a proposed carrier system to operate satisfactorily.

An important point brought out by another speaker was that if a railroad installed carrier without changing transpositions, the complete transpositions recommended by the committee would have to be made when further carrier systems were installed by the railroad or commercial companies. In order to install the transpositions at that time, extended sections of the original carrier and other circuits would have to be cut out of service during the changes, thus interfering with railroad operations by

(Continued on page 544)

## Short Lines Hold Annual Meeting

**T**HE 28th annual meeting of the American Short Line Railroad Association was held in the Morrison hotel in Chicago on September 29 and 30, with President J. M. Hood presiding. More than 135 representatives of 120 railroads were in attendance to hear the reports of the activities during the year and to discuss current problems. The meeting was addressed by John M. Hall, director, Bureau of Locomotive Inspection, Interstate Commerce Commission, and by Homer C. King, acting director of the Bureau of Service of the I. C. C., both of whom described the activities of their bureaus. At a luncheon meeting on Tuesday, September 30, the members were addressed by Congressman Clarence F. Lea, chairman of the Committee on Interstate and Foreign Commerce of the House of Representatives, who spoke on the national transportation situation as it is affected by the present emergency.

### Election of Officers

J. M. Hood was re-elected president for the coming year; C. A. Miller was re-elected vice-president and general counsel; and J. M. Huntt was re-elected secretary and treasurer. The regional vice-presidents were all re-elected. Changes on the board of directors included the re-election of all directors except J. A. Fenimore, president of the Joplin-Pittsburg, who resigned and C. E. Wright, general manager of the Chattahoochee Valley, deceased. P. A. Trageser, vice-president of the Cornwall, was elected a director for the Eastern region to fill a vacancy.

### Reports of Executives

President Hood, in his report to the members, cited the following figures showing the growing importance of the association:

The number of members as of September 27 was 309, and this membership reported the following statistics to the Interstate Commerce Commission for 1940:

Miles of Road Operated .....	14,344
Employees .....	34,426
Compensation .....	\$58,876,849
Average Annual Compensation .....	1,710
Investment, December 31, 1940 .....	714,994,166
Railway Operating Revenues .....	125,656,858
Railway Operating Expenses .....	89,973,170
Railway Tax Accruals .....	12,201,282
Net Railway Operating Income .....	20,389,563
Interest Charges .....	14,984,580
Net Income .....	4,818,589
Dividends .....	5,053,272

Mr. Hood outlined the steps that were taken to secure priorities for members on materials and supplies for the construction of equipment. He also detailed the steps taken to assist the members in their dealings with government agencies, with the Railroad Credit Corporation and the National Defense Advisory Commission, and in the labor negotiations now in progress.

In concluding, he said: "The continual thought in the minds of everyone throughout the year, whether representing the government, the general public, carriers, shippers, or any other group, has been the imminence of a possible foreign war. The program of the government for providing adequate National Defense has overshadowed all other activities of Congress and has influenced the thought and action of all bodies, official or private, with whom your officers normally conduct your business. The uncertainty of the future, in so far as national economics during a war, following a war, or following

the removal of the threat of war, warrants intensive and detailed thought of each representative of member lines as to how best to meet the conditions which will prevail upon his property. To the extent that the officers of the association can, and may with propriety, they will keep the membership fully informed of all developments of interest to them."

C. A. Miller, vice-president and general counsel, made his usual complete and detailed analysis of the work of the legal division of the association in the last year. This involved assisting the membership in both formal and informal proceedings before the I. C. C., the furtherance of short line interests on the law committee of the A. A. R., the reviewing of court and administrative decisions, the amendment of the Railway Labor Act and activities in the Fair Labor Standards Act proceedings.

During 1941, the legal department was taken cognizance of 191 of the 8,325 bills and resolutions introduced in the current Congress, as being of interest to short line railways. Mr. Miller's report included a brief analysis of many of these bills, with a summary of the action taken.

J. P. Blanton and J. H. Jester, traffic managers for the association at Atlanta and Washington respectively, presented comprehensive reports of their activities during the year. These activities have been materially increased as a result of the National Defense Program. Construction and enlargement of army camps, bases and industrial expansion have necessitated the establishment or readjustment of many rates. The traffic department has also continued its efforts to revise rates to regain for the short lines large volumes of traffic now moving by highway or barge lines.

### Other Reports

Brief reports were also presented by the five regional vice-presidents; O. H. Nance, president, Maryland & Pennsylvania, for the Eastern region; H. W. Purvis, receiver, Georgia & Florida, for the Southern region; A. C. Friedsam, president, Chicago, West Pullman & Southern, for the Western region; H. B. Cobban, president, Northeast Oklahoma, for the Southwestern region; and W. L. White, vice-president, Yosemite Valley, for the Pacific region.

Group discussions of various subjects were led by the following officers:

Accounting: J. R. Wilkerson, chief operating officer; Akron, Canton & Youngstown.

Car service: J. M. Davis, manager; Santa Maria Valley.

Legislative: O. A. Kirkman, executive vice-president; High Point, Thomasville & Denton.

Mechanical: M. L. Carlson, superintendent motive power; Missouri & Arkansas.

Operating: J. W. Devins, general manager; Minneapolis & St. Louis.

Traffic: G. F. Dempsey, traffic manager; Aberdeen & Rockfish.

The uses of Diesel-electric locomotives on short lines, such as the Erie Commercial, the Northeast Oklahoma, the Arkansas Valley, the Alabama, Tennessee & Northern and the Arcade & Attica were discussed at some length and moving pictures of a typical day's operations on the latter railroad were shown.

### Convention Addresses

John M. Hall, director of the Bureau of Locomotive Inspections, I. C. C., described the workings of that bureau in detail, with particular application to the short lines. He stated that it was the desire of the Bureau to promote safe, efficient locomotive operation and that

there was no desire on the part of the inspectors to penalize the railways.

Homer C. King, acting director of the Bureau of Service, I. C. C., stated that it was the intention of the Bureau to approach railway problems in a helpful rather than a critical way. He said: "It is my conception of the mission of the Interstate Commerce Commission that it should be helpful rather than restrictive. Since 1920, the Commission has had materially augmented powers over the use, control, supply, movement, exchange, interchange and return of locomotives, cars and other vehicles used in transportation."

He described how the number of service agents have been increased until 40 are now employed, which are being used effectively to contact railway officers and shippers to prevent any undue car detention at railroad terminals. He stated that the service agents have been valuable in saving car days by inducing shippers to increase the number of days during the week when loading and unloading is carried on. "The I. C. C.," Mr. King concluded, "maintains the position that no industry can be permitted to tie up cars at the expense of the railways and other shippers and the Bureau of Service will continue to correct and eliminate these practices on every occasion."

Merle Reed, member of the Railroad Retirement Board, described the activities of that board as applied to probable increased tax burdens on the railway industry. He warned that there is an ever-increasing amount of new social legislation being "brewed" in Washington, much of which will have its effect on the railway industry in giving employees additional unemployment payments, as well as sick and accident benefits. Mr. Reed also pointed out that free railway employment bureaus are maintained in the various regions by the board and urged the railways to make full use of them.

### Depreciation Accounting

J. R. Wilkerson, chief accounting officer, Akron, Canton & Youngstown, presented an informative paper on the results to be expected after the depreciation provisions of I. C. C. Docket 15100 become effective on January 1, 1942. This paper traced the history of modern railway depreciation accounting from its inception 20 years ago. Speaking as to the application of the new provisions, Mr. Wilkerson said:

"After its recent report of July 28, 1931, in Docket 15100, the Commission required reports to be submitted containing information to enable it to prescribe rates of depreciation for equipment, which rates were to be based on each class of equipment, and resulted in a group rate which was to be used in calculating monthly charges to operating expenses and credits to depreciation reserve, the reserve to constitute a pool against which would be charged all future charges for service value account equipment retirements, any discrepancy between the amount credited to the reserve and the service loss of the equipment to be absorbed by the reserve account, no charges resulting from the retirement being made to operating expenses. In cases wherein depreciation rates are insufficient over the service life of the unit to provide a reserve equal to the service value of same upon retirement, the carriers' operating expenses do not show the true picture for the period as they do not contain the full cost of the property consumed in operation. The earnings are consequently overstated and the carriers penalized from a tax standpoint for the excess earnings. This does not measure up to the fundamental principle involved and therefore results in an inadequate depreciation accounting system.

"The Commission's order, as it stands, would apply much the same method to depreciable roadway property as now applies to equipment, but the objectionable feature would be enhanced due to no depreciation whatever having been set up through charges to operating expenses prior to the effective date of the roadway depreciation accounting, and the carriers would again be penalized to a greater degree from a tax standpoint for the resultant increased earnings. This result borders on the taking of property without due process of law.

### Still Searching for Solution

"It therefore boils down to the fact that the main objection to the depreciation accounting now required by Docket 15100 as to equipment and as to be imposed on roadway, is the fact that the past depreciation for which no reserve has been provided for through charges to operating expenses or profit and loss, is not being provided for in this Docket 15100. The Commission and the carriers are searching for a solution to this problem and until a satisfactory one is found, the application of the proposed depreciation accounting will be harmful to a great many carriers."

After outlining several proposed remedies, Mr. Wilkerson concluded:

"These remarks are not intended to discredit in any way the vast amount of honest effort the Commission and its staff have given to this subject, as the attitude taken by the carriers in the hearings on argument, etc., was not such as to encourage them in their efforts to carry out what they feel is a congressional mandate.

"The carriers have contended:

- (1) That they have no such responsibility,
- (2) That depreciation accounting should not be applied to railroads,
- (3) That the Commission has only power to prescribe rates of depreciation, carriers could elect to depreciate or not depreciate,

and have generally taken an obstructive rather than a constructive attitude in the matter.

"I believe that the reports and findings of the Commission in the matter will be of lasting benefit; however, not sufficiently conclusive to warrant putting into effect an order of such vital interest and far reaching effect on the railroad industry. It is possible that the carriers now approach the Commission for further hearings confined to the application of depreciation accounting to various situations, further consideration of what property is depreciable, also as to the property units to be used, and in a spirit of helpfulness arrive at a system that will accomplish in general the results desired by the Commission and at same time preserve to the carriers their lawful rights. In such proceedings the short lines' views should be ascertained and properly presented, as it is very evident that a system of group depreciation rates and pool reserves satisfactory to a large system may be burdensome to a short line, likewise that the results on a road that has been well maintained will differ from that of a road that has been poorly maintained. The views of the larger systems on this subject are being constantly furnished the Commission through committees of the A. A. R., and rightfully so, if we short lines do not present our views, we are liable to have a garment prescribed for us that may fit them but be unduly burdensome for us."

### Chairman Lea's Address

At the luncheon meeting, Congressman Lea addressed the convention. He called attention to the fact that the

House Committee on Interstate Commerce had been functioning for 146 years. While recognizing that this committee had no authority over taxation, he expressed concern at the rising tax burden being laid on industry.

"Last week," he said, "the Secretary of the Treasury proposed that all corporation profits above a 6 per cent return on invested capital be taken by the government through taxation. The Secretary is quoted as calling for 'the elimination of the profit motive in war.' He took the position that production for defense purposes should be made unprofitable. Are profits, in themselves, inimical to the public welfare?"

"Profits are the motive, the moving cause, of business; the cornerstone on which we have builded private enterprise. Out of profits are the savings for old age, self-dependence instead of government dependence; the reserve out of which parents give their children a start in life.

"Out of cumulative profits, we have investments in labor, employment and materials. Without them business would languish, and labor be unemployed. Profits are the motive for industry, the motive to work, save, own, accumulate, employ labor and buy materials. No one can object to proper restrictions through taxes on excessive earnings or war profiteering. Such a result certainly should be accomplished without placing arbitrary restrictions impossible of practical application to all the great variety of conditions to which such a tax might apply.

"During the World War the government found it necessary to take over the railroads and continue that control for more than one year after war was over. We are now engaged in a defense program which may place upon our transportation agencies burdens greater than those carried during the World War. Looking back to that precedent many are apprehensive as to whether or not our railroads are, under private management, equal to the job that would be placed upon them.

"In his first annual report as Director General of the Railroads, Mr. McAdoo assigned the principal reasons for the congestion of traffic that caused the roads to be taken over. One of the main, if not the principal reason for the congestion of traffic was the system of granting transportation priorities to traffic by different agencies without unified co-ordination and in disregard of whether or not there were facilities for unloading the cars when delivered. At one time 200,000 cars were on the tracks awaiting unloading at stations where there were insufficient warehouses, or facilities, to receive the freight. Thus 200,000 cars were tied up, standing idle on the tracks, serving as warehouses instead of as transportation equipment. In the meantime, other freight that could have been distributed to the advantage of the country was lying in warehouses and on platforms awaiting the arrival of these misused cars."

The speaker then contrasted the transportation situation now with 1917—a vastly improved railway plant and a large installation of highways, waterways and pipelines which were not in existence in 1917. He summarized the great improvement which has occurred in the efficiency of railroad operation and arrived at the following conclusion:

"In my judgment, there is no problem in sight that makes it either necessary, or desirable, for the government to take over the operation of the railroads. Such a re-adjustment could not take place without a loss of efficiency.

Necessary governmental authority to assure efficiency and co-operation, if required, can be exercised by the Interstate Commerce Commission."

## T. & T. Section Meets in Cincinnati

(Continued from page 541)

restricting communication service. Those in favor of the specifications argued that the costs involved could be divided on an equitable basis, and that economy, as well as satisfactory service over a period of years, justified transpositions recommended in the report. After further arguments, the specifications were adopted for submission to letter ballot for inclusion in the Manual.

Where pole lines of communication or power circuits cross tracks, where pole lines conflict or cross, or are used jointly, the standards of construction with reference to strength and guying are determined by the National Electrical Safety Code, these regulations varying with respect to the strength of construction, depending on the location as affected by the frequency and severity of storms in which ice is deposited on wires. A report presented by one of the T. & T. Section committees included the revised specifications and loading area map to be issued in the 1941 edition of the National Electrical Code.

In general, the requirements as to strength are less than in the edition now in effect and, furthermore, the boundaries between the heavy, medium and light construction areas are to be changed.

These changes may affect certain roads adversely. The potential trouble is that a new public utility power line, using the new standards, may be constructed over a railroad pole line, and the power wires may fall across the railroad wires during an ice storm. Various speakers contended that the proposed changes in the loading map were based on exhaustive data prepared by the U. S. Weather Bureau and that it is questionable whether variations from the new N. E. S. C. would be justified or would be permitted. Other speakers contended that the map was intended only as a general guide and that there may be small areas, as, for example, in the heavy loading area, where medium loading might be permissible. J. M. Trissal (I. C.) explained that during several years when the 4th Edition of the Code was in effect, various parties concerned with the construction of pole lines in the western half of Tennessee had agreed to use medium loading construction, although the entire state was included in the heavy-loading district of the map in the 4th Edition.

In his paper, C. G. Sinclair, Jr., described the use of sodium fluoride for the treatment of poles now in service, as a means of minimizing damage caused by insects and fungus. The treatment is applied as a part of the routine maintenance inspection, i. e., about every three years. R. B. Steele (C. N.) expressed the opinion that the handling of a poison such as sodium fluoride might be hazardous to workmen, but it was explained that tests made in Canada indicated that borax, which would accomplish the result desired, could be handled in bulk with safety.

PIGEONS ARE BEING definitely discouraged from making their homes along outside edges of the roof of Pennsylvania Station, New York. Chief weapon of the railroad is an anti-pigeon device—consisting of a mass of upright wires on which no pigeon can find a comfortable roost—which it is now installing in strategic zones. The upright wires will harm the birds in no way, but (as one newspaper reporter put it) would merely encourage them to hop off and seek hospitality at some other building—Grand Central terminal for instance.

# NEWS

## Get Material to RRs, Plea of Lea

U. S. has world's best transport  
but materials are needed for  
next year's equipment

Because transportation "is the basic activity on which other defense successes must rest," Chairman Lea of the House of Representatives committee on interstate and foreign commerce suggested in a September 25 speech that "every effort possible should be made to supply that deficiency in materials for which priorities have not been granted." The Lea speech, made on the floor of the House, was in the main a railroad talk; and he asserted at one point that "in all the world no job is being better done today than by the American railroads," adding an expression of his belief that "the nation can allay any undue apprehension and look with confidence to the performance of our railroads even though their task may become very great."

In the latter connection Mr. Lea anticipated that the "friendly understanding, co-operation, and support of the shipping interests of the country" will be forthcoming. Previously the Californian had contrasted today's transportation situation with that of December, 1917, when the government took over the railroads for the period of the first World War. He recalled how congestion of traffic had caused the government to act, adding that the principal reason for such congestion "was the system of granting transportation priorities to traffic by different agencies without unified coordination and in disregard of whether or not there were facilities for unloading the cars when delivered." Then after framing a bill of particulars to support his statement that "twenty-one years have witnessed many changes," Mr. Lea pointed out how the country today has "a railroad management schooled in our transportation difficulties in the World War and trained in efficiency under the pressure of unfavorable economic conditions and keen competition of the last two decades."

In his brief review of the past 21 years in transportation, Mr. Lea noted how during that period the country acquired virtually all of its motor truck transportation system while billions were being spent on highways, rivers and harbors, pipe lines, air transportation and improved rail facilities. Thus, as he put it, "it is a modernized transportation system that faces the carrier problems of 1941; with these new investments our transportation system is unquestionably the best the world has pro-

duced. Dealing specifically with the railroads, Mr. Lea asserted that "in nearly all cases railroad betterments have been given first place over dividends and other desirable expenditures"; and "in the aggregate, the practical accomplishments growing out of these improvements represent a marvelous record," although "these things have been done with little fanfare and accomplished without any decoration of heroes."

The speaker went on to list such betterments as the increased use of treated timber and heavy rail; construction of sidings; improvements in the hot-box and engine-failure records; increases in train speeds and in capacity of cars and tractive power of locomotives. "For nearly a year," he went on, "the railroads have been delivering an average of 5,000 carloads of defense materials a day to widely scattered government projects. There has been no delay due to failure of rail transportation. The roads made deliveries promptly and the government agencies and contractors unloaded and released the cars in an average time of 1 3/4 days per car. There has been no shortage of cars for over ten years."

Mr. Lea next stressed the need for co-operation in the interest of efficient utilization of existing equipment, continuing then to his aforementioned plea for priorities which will be effective in making available the materials needed for car and locomotive construction. In that connection he mentioned figures which have been given by Defense Transportation Commissioner Ralph Budd, showing that the present building program is already 20,000 cars behind schedule, and that it will fall short by 100,000 cars by October 1, 1942, "unless needed construction materials can be provided in the near future." Concluding that phase of his talk, Mr. Lea said: "There will always be the opportunity to improve the service by use of equipment in existence, but transportation cannot be increased through any degree of efficiency by equipment ordered but not in use."

### Equipment Depreciation Orders

Equipment depreciation rates for six railroads are prescribed by the Interstate Commerce Commission in a new series of sub-orders and modifications of previous sub-orders in No. 15100, Depreciation Charges of Steam Railroad Companies. The composite percentages for all equipment range from 3.69 per cent for the Atlanta, Birmingham & Coast to 5.41 per cent for the Greenville & Northern. The other four roads involved are: Waynesburg & Washington; Patapsco & Back Rivers; Pittsburgh, Allegheny & McKees Rocks; and Western Allegheny.

## A. A. R. Treasury Division Meeting

Important reports adopted at  
September 24-26 sessions  
in Colorado Springs

Lively discussion, culminating in adoption of a number of important reports on such matters as uniform rules governing collection of freight charges, railroad travel credit check service, and rules for handling and release of advise and order shipments, featured the fifth annual meeting of the Treasury Division, Association of American Railroads, at Colorado Springs, Colo., September 24-26. Including meetings held under the auspices of its predecessor organization (Railway Treasury Officers Association) the convention was the 34th annual meeting of railway treasury and financial officers.

Attendance exceeded 200 members and guests. Among the latter were many banking and financial executives. R. P. Ahrens, treasurer of the New York Central was elected chairman of the Division for the ensuing year; J. A. Simpson, treasurer of the Southern Pacific, was elected vice-chairman. E. R. Ford continues as secretary. By informal poll, the members selected Boston, Mass., as their preference for the 1942 meeting place, subject to confirmation by the Advisory Committee.

The opening session was featured by addresses on general problems of the rail industry; delivered by Donald D. Conn, executive vice-president, Transportation Association of America; Z. G. Hopkins, Western Railways' Committee on Public Relations; and Henry Swan, trustee, Denver & Rio Grande Western. The entire second day's session was devoted to consideration of the report of the advisory committee, presented by Chairman H. B. Fink, secretary and treasurer of the Atchison, Topeka & Santa Fe. Reports of other committees and new business—including revision of the rules of order to provide for the election of members of the advisory committee—comprised the program for the September 26 session, which was featured by an informal talk by A. A. R. Vice-President E. H. Bunnell, whose prepared paper on some recent developments affecting regulation of rail carriers was, owing to time limitations and upon his suggestion, placed in the record for general distribution.

In convening the opening session, Chairman Fink recalled that the treasury officers

(Continued on page 552)

## Ickes in Fury at J. J. Pelley

Resenting criticism, he calls on carriers to remove "storm troopers" from D. C.

Appearing on Thursday, as this issue went to press, J. J. Pelley, president of the Association of American Railroads, stated that since his September 3 presentation railroad oil traffic into the Atlantic states area has increased from 15,000 bbl. a day to 80,000 bbl., and he still insisted that a step-up to 200,000 bbl. would present "no problem for the railroads." The A. A. R. President submitted figures, as of September 27, showing a tank car surplus "of substantially more than 20,000 cars, over and above a supply ample to take care of loading for two days." Also, Mr. Pelley answered the Ickes attack saying that while he had hoped the discussion "would be kept on a plane of the facts about the oil situation," he could not leave uncontradicted in the record statements "so seriously reflecting upon the integrity and patriotism of railroad representatives, including myself."

In a bitterly worded statement delivered on October 1 before the special Senate committee investigating the alleged gasoline shortage in the eastern seaboard states, Harold L. Ickes, federal petroleum coordinator, denounced J. J. Pelley, president of the Association of American Railroads, for the latter's recent testimony which asserted that there are some 20,000 idle tank cars in the United States which could be used to alleviate the shortage. Mr. Ickes' tirade against the A. A. R. president came after he had asked the committee, headed by Senator Maloney, Democrat of Connecticut, to resume its hearings so that he could answer certain conclusions reached by the committee in its tentative report which was made public a couple of weeks ago.

It early became apparent that Mr. Ickes was up to his usual fighting form and it did not take the committee and the audience long to observe that he was highly irritated because the committee had criticized his handling of the alleged oil shortage and the failure of his conservation program. Also, early in his statement, he began to denounce Mr. Pelley, saying that his testimony was entirely discredited and not worthy of any consideration. A few samples of his language will show the mood in which Mr. Ickes approached the problem under consideration. These follow:

"I suggest to the American Railroads, as a test of their patriotism and as proof that they repudiate such a disservice as Mr. Pelley has committed them to, that they recall Mr. Pelley and his storm troopers from Washington and render him powerless to commit further mischievous acts."

And again, "In all candor, gentlemen of the committee, Mr. Pelley owes not only to you, but to the American people whom he has wantonly and maliciously deceived, an abject apology. Mr. Pelley has imposed upon you. Mr. Pelley has trifled with a serious situation. Mr. Pelley has confused

the public mind; he has stood in the way of national unity at the most critical time in our history. Mr. Pelley has shown that he is willing to sacrifice the safety and security of his own country for the base purpose of preventing transportation facilities that could undersell the railroads."

And yet again the words of the petroleum coordinator, "Your committee has issued a report which has gravely handicapped the program of the petroleum coordinator's office, and the major findings of that report were predicted in large measure upon the so-called 'studied opinion and serious promises' of a man who has now been proven to have given testimony which was utterly without foundation—and I believe he *knew* that it was without foundation."

After some two hours of this violent de-

## 8 Mo. Net Income Was \$298 Million

Net railway operating income was \$651,089,274, a 4.12 per cent return

Class I railroads in the first eight months of this year had an estimated net income, after interest and rentals, of \$298,524,000, as compared with \$29,350,000 in the corresponding period last year, according to the Bureau of Railway Economics of the Association of American Railroads. The eight-months net railway operating income, before interest and rentals, amounted

### CLASS I RAILROADS—UNITED STATES

Month of August

	1941	1940	1930
Total operating revenues	\$493,674,008	\$381,538,438	\$460,973,773
Total operating expenses	313,843,279	267,571,190	323,571,474
Operating ratio—per cent	63.57	70.13	70.19
Taxes	56,850,302	36,517,697	31,747,043
Net railway operating income	111,317,825	66,530,180	94,327,471
(Earnings before charges)			
Rate of return on property investment	4.04	2.44	3.33
Net income, after charges (estimated)	66,793,589	22,058,543	*.....

Eight Months Ended August 31

Total operating revenues	\$3,403,544,130	\$2,744,138,975	\$3,572,873,894
Total operating expenses	2,302,227,120	2,027,486,510	2,701,718,583
Operating ratio—per cent	67.64	73.88	75.62
Taxes	361,754,168	260,265,237	240,197,403
Net railway operating income	651,089,274	369,778,456	545,262,898
(Earnings before charges)			
Rate of return on property investment	4.12	2.36	3.45
Net income, after charges (estimated)	298,524,350	29,350,144	*

\* Net income not reported monthly prior to 1932.

nunciation of Mr. Pelley by Mr. Ickes, Chairman Maloney quietly told the petroleum coordinator that he had "complete confidence in Mr. Pelley," having known him for many years and that he would have Mr. Pelley return to the committee the next day to answer Mr. Ickes.

Earlier in the week Mr. Ickes renewed the current controversy between his office and the A. A. R. over the question of how many idle tank cars there are, by issuing a detailed statement purporting to show that there were only 5,192 cars available, if they could be located, and not 20,000 as Mr. Pelley had told the committee earlier. To this statement, Mr. Pelley made the following answer:

"I see no point in a controversy about just how many surplus tank cars are available. The figures I gave the Senate committee were furnished by the people who own the tank cars. We are now moving to the Atlantic Seaboard 75,000 barrels of oil per day, although the general rate reductions have been in effect only 10 days. Railroads and oil companies are completing arrangement for a further substantial movement to the Eastern Seaboard. So far as I know, the oil companies who are now moving and propose to move the oil are having no difficulty in getting tank cars."

The gist of Mr. Ickes' statement to the committee was that this survey had revealed only 5,192 cars available, if located, and that one oil company, the Cities Service Company, had asked for a commitment

to \$651,089,274, a 4.12 per cent return, as compared with \$369,778,456 or 2.36 per cent in 1940 and \$545,262,898 or 3.45 per cent in 1930.

The August net income was \$66,793,589 compared with \$22,058,543 in August, 1940; while the net railway operating income for that month was \$111,317,825, a 4.04 per cent return, compared with \$66,530,180 or 2.44 per cent in the same month of 1940 and \$94,327,471 or 3.33 per cent in August, 1930.

Total operating revenues in the eight months of 1941 were \$3,403,544,130, compared with \$2,744,138,975 in the same period in 1940, and \$3,572,873,894 in the first eight months of 1930, an increase of 24 per cent in 1941 above 1940, but 4.7 per cent below 1930. Operating expenses amounted to \$2,302,227,120, compared with \$2,027,486,510 in the corresponding period in 1940, and \$2,701,718,583 in the same period in 1930—13.6 per cent above the former but 14.8 per cent below the like period in 1930.

Class I roads in the eight months paid \$361,754,168 in taxes, compared with \$260,265,237 in the same period in 1940, and \$240,197,403 in the same period in 1930. For August alone, the tax bill amounted to \$56,850,302, an increase of \$20,332,605 or 55.7 per cent above August, 1940. Twenty-nine Class I roads failed to earn interest and rentals in the eight months, of which six were in the Eastern district, three in the Southern district, and 20 in the Western district.

Gross for August totaled \$493,674,008

(Continued on page 553)

compared with \$381,538,438 in August, 1940, and \$460,973,773 in August, 1930. Operating expenses totaled \$313,843,279 compared with \$267,571,190 in the same month in 1940, and \$323,571,474 in August, 1930.

Class I roads in the Eastern district in the eight months had an estimated net income of \$175,302,976, compared with \$75,107,708 in the same period last year. Those same roads had an eight-months net railway operating income of \$325,098,558, or 4.13 per cent, compared with \$223,191,187 or 2.87 per cent in the same period in 1940, and \$297,728,078 or 3.92 per cent compared with 1930. Operating revenues in the Eastern district in the eight months totaled \$1,698,681,004, an increase of 22.5 per cent compared with the same period in 1940, but a decrease of 5.1 per cent compared with the same eight months in 1930; operating expenses totaled \$1,136,386,880, an increase of 15.3 per cent above 1940, but a decrease of 15 per cent under 1930.

The Eastern district net income for August was \$32,845,859, compared with \$16,465,346 in August, 1940; net railway operating income amounted to \$52,205,110 compared with \$35,375,428 in August, 1940, and \$44,949,205 in the same month of 1930.

Class I roads in the Southern district in the eight months had an estimated net income of \$48,670,122, compared with a deficit of \$2,388,391 in the same period last year. Those same roads had net railway operating income of \$91,688,925, or 4.62 per cent, compared with \$42,824,186 or 2.16 per cent in the same period of 1940, and \$54,190,288 or 2.56 per cent, in 1930. The eight-months gross in the Southern district totaled \$446,098,319, an increase of 27 per cent compared with the same period in 1940, and an increase of 1.2 per cent compared with the same eight months in 1930. Operating expenses totaled \$299,036,401, an increase of 11 per cent above 1940, but a decrease of 14.7 per cent under 1930.

August's net income in the Southern district was \$6,626,853 compared with a deficit of \$903,384 in August 1940; net railway operating income amounted to \$12,583,547 compared with \$5,354,802 in August, 1940, and \$5,820,065 in the same month of 1930.

Class I roads in the Western district in the eight months had an estimated net income of \$74,551,252, compared with a deficit of \$43,369,173 in the same period last year. Those same roads had net railway operating income of \$234,301,791, or 3.93 per cent, compared with \$103,763,083 or 1.75 per cent in the same period in 1940, and \$193,344,532 or 3.17 per cent compared with 1930. Gross in the Western district in the eight months totaled \$1,258,764,807, an increase of 25.1 per cent compared with the same period in 1940, but a decrease of 6.3 per cent compared with the same eight months in 1930. Operating expenses totaled \$866,803,839, an increase of 12.2 per cent above 1940, but a decrease of 14.6 per cent under 1930.

Class I roads in the Western district for August had an estimated net income of \$27,320,877 compared with \$6,496,581 in August, 1940; net railway operating income amounted to \$46,529,168 compared with

\$25,799,950 in August, 1940, and \$43,558,201 in the same month of 1930.

### Club Meetings

The Traffic Club of Newark, N. J., will hold its annual election of officers at the Robert Treat hotel, Newark, N. J., on Monday, October 6. The next traffic club forum is scheduled for Monday, October 13, at the same place.

### A. C. L. Gets Truck Certificates

The Interstate Commerce Commission, Division 5, has conditionally granted the Atlantic Coast Line certificates authorizing common-carrier trucking operations over seven routes between various points in Virginia and North Carolina. The conditions are the usual ones designed to insure that the highway operations will remain auxiliary to or supplemental of rail service.

### Travel Money for Members of Armed Forces

Representative O'Brien, Democrat of Michigan, has introduced H. R. 5707 to authorize the appropriation of funds for use of the War and Navy departments "to pay for the transportation of enlisted men and selectees" in the Army, Navy, and Marine Corps "for travel to their respective homes and return while on furlough."

### Foreign Trade Group to Meet October 6

A Transportation and Insurance Group session of the National Foreign Trade convention will be held at the Hotel Pennsylvania, New York, on the afternoon of October 6. Reservations should be sent to the National Foreign Trade Council, 26 Beaver Street, New York, and suggested topics submitted to T. E. Lyons, chief, Public Utilities unit, Bureau of Foreign & Domestic Commerce. The convention is being held by the Council in co-operation with the federal bureau.

### Williams to Address N. Y. Railroad Club

Albert N. Williams, president, Western Union Telegraph Company, and former president of the Lehigh Valley, will address the New York Railroad club at its next meeting at the Engineering Societies Building, New York, on Thursday, October 16. His talk, to be entitled "Communications in National Defense," will be followed by a demonstration of the automatic telegraph. In addition a sound motion picture "Army on Wheels" will be shown by courtesy of the Chrysler Corporation, with vaudeville closing the meeting.

### P. R. R. Opens Canteen For Armed Forces

A canteen serving inexpensive light refreshments and providing tables for letter writing was opened at Pennsylvania station, New York, at 1 p.m. on September 29, for the exclusive use of soldiers, sailors and marines in uniform and their friends and relatives accompanying them. The canteen, located near the incoming train bulletin board, is operated by the Union News Company in co-operation with the

railroad. Civilians, unless accompanied by servicemen in uniform, will not be permitted to use the facilities.

Available at the canteen are sandwiches at 10 cents each, coffee at 5 cents per cup, soft drinks at 5 cents per bottle, ice cream at 5 and 10 cents and other light refreshments. Cigarettes, tobacco, postal cards and letter paper are also on sale at reasonable prices and guests are encouraged to use the convenient tables for writing letters. The canteen is open daily from 9 a.m. until midnight.

### New Mail Facilities at Washington

Additional facilities for handling the "tremendously" increased volume of mail at Washington, D. C., will be constructed by the Washington Terminal Company at a cost of approximately \$500,000 as soon as enabling legislation has been enacted by Congress. The legislation, embodied in H. R. 5682 which passed the House last week and was reported favorably in the Senate on September 29, would amend the 1903 "Act to Provide for a Union Railroad Station in the District of Columbia" and thus increase the station area therein defined to the extent necessary to provide for the new facilities.

### Ample Refrigerated Warehouse Space Available

There is ample refrigerated warehouse space to preserve the nation's perishable food supplies for both civilian and defense needs, according to a survey released September 29 by Ralph Budd, defense transportation commissioner.

The survey, made by the Warehousing and Transportation Unit of Mr. Budd's office, showed that there was 120 million cu. ft. of space vacant at the middle of June. It is the first of three major surveys, recommended by a committee of representatives from all defense offices, which the Warehouse Unit is undertaking; two others—of merchandise storage facilities and vacant building space which might be converted to warehouse use—will be completed soon.

### Seven Months Air Traffic

Domestic air carriers during this year's first seven months carried 36 per cent more revenue passengers and handled 53.8 per cent more express poundage than in the comparable period on 1940, according to figures made public by the Department of Commerce's Civil Aeronautics Administration. The revenue passengers carried in the January-July period this year totaled 1,942,812, compared with 1,427,305 in 1940; while the express carried was, respectively, 9,626,725 lb. and 6,261,209 lb.

Meanwhile, the revenue passenger-miles flown were up 30 per cent, and express pound-miles increased 48 per cent. Because the seat-miles flown increased 34.5 per cent the revenue passenger load factor for this year's first seven months was less favorable than last year—56.8 as compared with 58.7.

On September 29, Robert H. Hinckley, assistant secretary of commerce for air, issued a statement calling attention to the fact that on the previous day the air car-

riers "completed seven months of the heaviest operations in their history without a single fatal accident." Presidents of the air lines were congratulated in a letter from Secretary of Commerce Jesse H. Jones, who gave assurances that CAA and other agencies of the Department "would do everything in their power to keep the safety record high." In the latter connection, Mr. Hinckley's statement said: "Instructions to this effect went out to CAA personnel operating the 35,000-mile network of aids to navigation over which most air line flights are made."

### Canadian Pool Train Derailed by Transverse Fissure

One train employee was killed and 40 passengers and employees injured when the dining car and three parlor cars of the Canadian Pacific-Canadian National pool train "Viger", bound from Montreal, Que., to Quebec, derailed at Maskinonge at 7:54 p. m. on September 30. The accident, which occurred 24 mi. west of Three Rivers on the C. P. R. line along the north shore of the St. Lawrence, was caused by rail damage resulting from a hidden transverse fissure. The dining car turned over in the bed of a nearby-dry tributary river while the three parlor cars remained on the roadbed. Ambulances and doctors reached the scene of the derailment quickly and the injured were promptly hospitalized. The single-track line was passable again within 14 hours.

### August Locomotive Shipments

August shipments of railroad locomotives totaled 87 as compared with a revised figure of 88 for July and 55 in August, 1940, according to reports from builders to the Department of Commerce's Bureau of the Census. Shipments for this year's first eight months totaled 605 locomotives as compared with 328 in the same period last year.

Unfilled orders at the end of August totaled 969 locomotives as compared with 947 at the end of July and 277 as of August 31, 1940.

Data supplied by the Car Service Division, Association of American Railroads, on locomotive building in railroad shops show that 11 locomotives were thus produced in this year's first eight months as compared with 53 in the same period last year. Railroad shops had 68 locomotives on order as of September 1.

### Eastern Railroads Exhibit at National Defense Exposition

Member roads of the Eastern Railroad Presidents Conference, through the Committee on Public Relations of that body, have placed a special exhibit at the Civilian and National Defense Exposition being held at Grand Central Palace, New York, September 20 to October 18, inclusive, which shows the vital part that the railroads play in the national defense program. Their exhibit includes an operating model of a three-track railroad system, complete with passenger station, signal bridge, coal chute, water tank, stock yards, freight house and crossing gates, with streets through a typical business district. Two

freights and a passenger train are in regular operation.

Through telephone receivers conveniently arranged on counters, visitors hear vital, up-to-the-minute statistics of the job the railroads are doing—that, for example, they are delivering an average of 5,000 carloads of freight a day to government construction projects; that two million men have been transported in military service to training camps and maneuver areas. Other display units tell of railroad taxes, expenditures for materials and supplies, employment, and the investment of 10½ billion dollars in plant improvement during recent years which has placed them in a position to cope with multiplying freight traffic.

### OPA Will Fix Prices of Carbon and Low-Alloy Steel Castings

Maximum prices for carbon and low-alloy steel castings, "including railway specialties," will be established at or below current levels, it was announced September 30 by Leon Henderson, administrator of the Office of Price Administration.

Plans for the schedule, the OPA announcement said, have been discussed with representatives of 60 large and small producers; a separate session was held with the makers of railway specialties. Further discussions will take place with a representative committee which OPA is selecting "in order that the schedule of maximum prices may conform as closely as possible to present trade practices and methods." Consultation also will be had with buyers of castings before the ceiling is formulated.

The announcement went on to say that the general level of carbon and low-alloy steel casting prices has risen about 15 per cent thus far in 1941. It added that "because of the importance to industry, and particularly to the defense program," OPA "feels that a price ceiling should be established at or below the levels now prevailing."

### Budd Declares Shippers Balk at High R. R. Oil Rates

Shippers will not make the fullest possible use of railroad tank cars for oil and gasoline until some way can be found to reimburse them for the increased costs by railroad as compared with tankers and pipe-lines. This was the opinion expressed by Ralph Budd, commissioner of transportation of the National Defense Advisory Commission and president of the Burlington, in an address before the sixtieth annual convention of the American Transit Association in Atlantic City, N. J., on September 29.

Said Mr. Budd, in part, "Even at the reduced rates, it costs six times as much to move petroleum from Texas by rail as it does by tanker. Would you expect people to use to capacity your buses at six cents if they could go as quickly and comfortably by others for one cent? Of course not. Neither do the shippers want to make maximum use of freight facilities at such greatly increased rates if they have to stand the extra cost. A further pertinent fact is that tank cars are owned or leased by petroleum shippers who thus control them.

They are not owned by railroads, except a relatively small number, which are used for handling locomotive fuel."

### Life Insurance Magazine Salutes the Railroads

A "Salute to America's Railroads" features the September issue of "The Pilot's Log," monthly magazine published by the New England Life Insurance Company, Boston, Mass., for its employees. The article is the first to be presented in a series which will point out what leading defense industries are doing to further the American cause.

The article takes the theme that, abused as America's railroads have been in the years past, they have nevertheless answered the bell for the present challenge and thereby deserve the title of "this brauniest of American defenders." Of the treatment which the railroads have received the article says: "The unromantic industrial world, which gave a great portion of its freight to new and competing forms of transportation during depression years, now has a transportation problem of unprecedented and colossal proportions and it returned to the husky, fighting American railroads for the solution—and they got it. When war broke out in Europe in 1939, the railroads sensed what might come and began preparations for the defense job, in spite of a multitude of current operating worries."

### Additional Annual Steel Capacity of 10,000,000 Tons

A further 10,000,000-ton expansion of the nation's annual steel-making capacity has been approved by the Supply Priorities and Allocations Board, and the Office of Production Management has moved to put the decision into effect. SPAB's action came in the form of an approval of a report recommending the 10,000,000-ton increase which had been prepared by W. A. Hauck, OPM steel consultant.

The OPM statement said that the expansion will be started immediately to meet, among others, such shortages as those of plates for ships, railroad equipment, armor plate for tanks, gun mounts, etc. It is estimated that some of the additional 10,000,000-tons capacity can be completed within nine months, and "substantially all of it within two years provided highest priority ratings are assigned to all undertakings." Unless such ratings are assigned, Mr. Hauck said, no further expansion should be started.

In addition to the 10,000,000-ton increase, Mr. Hauck recommended that another 5,000,000-ton expansion should be undertaken "to the extent that may be found practicable." The latter, however, would not be in the immediate program. Meanwhile the 10,000,000-ton expansion will require construction of more lake ore boats, in addition to the 25 already recommended by OPM to the Maritime Commission.

Dealing with steel-plate capacity, the report cites figures showing that the present rate of demand is 8,500,000 to 9,000,000 tons a year, while present production is at the rate of 6,300,000. Thus the deficiency is "substantially more than 2,000,000 tons." However, additional yearly plate capacity

underway or approved will total 2,336,920 tons. In that connection the report says that the program being developed will provide "the balance of ingot capacity needed on the above and also the ingot and plate capacity further needed."

The OPM statement pointed out that the steel required to build the new 10,000,000-ton capacity "must be obtained by a corresponding reduction in steel available for civilian uses while the construction is under way." In other words 1.3 per cent of the present capacity must be thus set aside during each of the next two years; but "this will be returned many times over during subsequent years."

### R. E. A. Handled 310 Tons of Southern Bees Last Spring

The Railway Express Agency reports that its traffic in live bees from various points in the Southern states during the shipping season last Spring totaled 310 tons, representing shipments from 64 points in seven states east of the Mississippi. This figure does not include similar traffic from the Southwest and California.

The insects are shipped in two types of cages, containing two or three lb. each, with 4500 to 5500 bees to the pound forwarded individually or in lots of three or four held together with crating strips. In the "combless cage," the bees are fed sugar syrup from a can suspended inside. In the "comb cage," they travel on the comb when taken from the hive. Usually a queen bee is shipped in a special compartment in the cage.

Live bees are not usually accepted for transportation to destinations which cannot be reached within six days. Express handlers are constantly cautioned to provide full ventilation and as little disturbance as possible while moving on trains and in trucks. The expressman is told that the bees are normally quiet, but that if they suffer from heat, it can be noted by their frenzied activity and loud humming in the cage. Giving them air and lightly spraying them with cold water quiets them down on hot days, when excessive activity may be fatal to the insects through exhaustion, starvation or self-inflicted injury.

### August Truck Freight Volume 28 Per Cent Over 1940

"Due chiefly to a sharp seasonal drop in the movement of new automobiles," the volume of revenue freight transported by motor truck showed a decrease of 0.4 per cent in August as compared with July, but held 28.1 per cent over August, 1940, according to American Trucking Associations.

Comparable reports were received by A. T. A. from 218 motor carriers in 39 states, the reporting carriers transported an aggregate of 1,720,262 tons in August, as against 1,727,708 tons in July, and 1,342,709 tons in August, 1940. The A. T. A. index figure, based on the average monthly tonnage of the reporting carriers for the three-year period of 1938-1940 as 100, was 157.7 for August.

A little more than 80 per cent of all the tonnage transported in the month was reported by carriers of general freight. The

volume in this category increased two per cent over July, and 29.2 per cent over August of the previous year. Transporters of petroleum products, accounting for almost 10 per cent of the total tonnage reported, showed a decrease of 3.2 per cent under July, but held 17.5 per cent over August, 1940. Movement of new automobiles and trucks, constituting one per cent of the total tonnage reported, dropped 52.8 per cent under July, but the August volume was 116.7 per cent over August, 1940. Haulers of iron and steel products reported almost four per cent of the total tonnage; the volume of these commodities increased 5.6 per cent over July, and 34.2 per cent over August of last year. Almost four per cent of the total tonnage reported was miscellaneous commodities, including tobacco, milk, textile products, building materials, cement and household goods. Tonnage in this class decreased one per cent under July, but held 9.9 per cent over August, 1940.

### Mansfield Defends Rivers and Harbors Legislation

Recent charges of Representative Ploeser, Republican of Missouri, that the forthcoming rivers and harbors bill, with the St. Lawrence seaway and Florida ship canal in it, will set the stage for a "pork barrel orgy" were answered by Chairman Mansfield of the House committee on rivers and harbors in a statement inserted in the appendix to the September 29 issue of the Congressional Record. Representative Ploeser's remarks, made on the floor of the House September 23, were reported in the *Railway Age* of September 27, page 500.

Mr. Mansfield stated that Mr. Ploeser's talk indicated "some misunderstanding" with respect to the bill now being framed. Rivers and harbors legislation, he went on, has long had to endure the "pork-barrel" charge—"the railroad propagandists coined that expression more than 40 years ago, expecting to use it in every instance where they were at a loss to find an intelligent reason for opposing expenditures on the Mississippi, the Missouri, and the Illinois." The list of projects criticized by Mr. Ploeser, the chairman said, was a "tentative and incomplete list," and he proceeded to chide his colleague for making a speech on the basis of a "confidential" committee print.

As Mr. Mansfield sees it, there can be no "pork-barrel" charge in connection with projects which have been approved by the Army engineers, and which Congress can strike from any rivers and harbors bill if the majority should take a view different from that of the engineers.

### A. A. R. Board Meeting

The inability of builders and railroads to obtain materials needed to maintain current equipment-building and repair schedules continued to be one of the main concerns of directors of the Association of American Railroads when they held their latest meeting in Washington on September 26. Among other specific situations cited, it was said, was that of the executive who reported that he had not yet received delivery of repair materials ordered last year.

Meanwhile the meeting's discussions are

understood to have brought out assurances from A. A. R. officers that everything possible was being done to translate the A-3 priority rating into actual deliveries of materials. Among other data before the directors was the usual monthly report on the car situation which is prepared for A. A. R. President J. J. Pelley by Vice-President C. H. Buford; while another matter considered was the petition of the National Industrial Traffic League and the National Association of Shippers Advisory Boards for an allowance for dunnage in closed cars.

Vice-President Buford's report on the car situation noted "further improvement September 1, compared with previous reporting periods, in the number of serviceable box cars in circulation, the increase amounting to about 16,000 cars as compared with July 1." Also, the report went on, "requirements for loading of box cars have been well protected so far this year;" but the next six weeks (the report was dated September 23) will require "the quickest possible handling and the utmost efforts toward proper loading under the rules." With respect to open top cars, the demand has continued heavy; but "car supply has been adequate, with a few situations where the supply has been short for a brief period, but with no loss of production as full distribution requirements were met on other days during the week."

Recent activities of the Car Service Division, Mr. Buford pointed out, have included the inauguration of "special comprehensive checks on individual roads to get as complete a picture as possible of car handling rather than by piecemeal as has heretofore been the practice." The result of such checks "is proving to be most satisfactory," since they have made it apparent that "slack exists which increased supervision and attention to details will pick up, and apparently to such extent as is necessary to avert difficulty respecting car supply in the weeks which lie just ahead." All phases of equipment delay are being watched, and "corrective action is being taken;" the field force of the I. C. C. are working to this end." The report also gives a brief review of the port situation, which, "taken as a whole, is in excellent shape."

The shipper representatives who made the aforementioned dunnage-allowance appeal were W. J. Williamson, chairman of the N. I. T. League's classification committee; E. F. Lacey, executive secretary of the League; A. W. Vogtle, president of the National Association of Shippers' Advisory Boards; and H. W. Frazer, general traffic manager of the Woolworth Company, New York. The A. A. R. board took the matter under advisement.

### British Road Appoints Special Fire Officer

Inasmuch as the extensive properties and buildings of a railroad system are highly vulnerable to incendiary bombs, the Southern Railway in England has organized a special fire-fighting department and stepped-up its equipment for any future demands that enemy action might bring. E. M. Turnbull, former assistant mechanical officer in charge of passenger car lighting, has been appointed fire officer of the railway. He holds the rank of major in the

Southern Railway Home Guard and has made a special study of bomb-initiated fires.

Since water mains are often rendered useless by bombs, the railroad has prepared extensive alternative sources of water by constructing dams, deepening pools, widening brooks, tapping rivers, etc. For pumping services it has fitted nine locomotives with auxiliaries, in addition to purchasing a large number of highway trailer pumps which may be hauled either by crews of men or attached to a motor vehicle.

This information comes to the United States in a four-page employees' newspaper entitled "Southern On Guard," which has replaced the regular Southern magazine for the "duration." Its contents deal principally with activities of the railway's Home Guard. Evidently the paper shortage has forced the railroad to economize. Both the envelope and the note accompanying the *Railway Age's* copy were formed of the back of discarded time-tables.

### Freight Car Loading

Loadings of revenue freight for the week ended September 27 totaled 919,510 cars, the Association of American Railroads announced on October 2. This was an increase of 11,541 cars, or 1.3 per cent, above the previous week, an increase of 97,076 cars, or 11.8 per cent, above the corresponding week last year, and an increase of 89,814 cars, or 10.8 per cent, above the comparable 1939 week.

As reported in last week's issue, loadings of revenue freight for the week ended September 20, totaled 907,969 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading			
For Week Ended Saturday, September 20			
Districts	1941	1940	1939
Eastern .....	184,110	165,837	170,172
Allegheny .....	196,571	170,383	162,723
Pocahontas .....	55,273	54,538	55,557
Southern .....	127,577	111,359	113,564

Northwestern ..	146,721	137,023	125,267
Central Western	133,639	118,506	122,598
Southwestern ..	64,078	55,683	59,871
<b>Total Western Districts ....</b>	<b>344,438</b>	<b>311,212</b>	<b>307,736</b>
<b>Total All Roads</b>	<b>907,969</b>	<b>813,329</b>	<b>809,752</b>
<b>Commodities</b>			
Grain and grain products .....	44,839	40,943	46,791
Live stock .....	15,482	18,592	19,551
Coal .....	158,989	144,483	154,046
Coke .....	12,876	11,102	9,399
Forest products ..	45,364	41,022	35,755
Ore .....	69,721	68,397	58,269
Merchandise l.c.l.	160,224	157,201	162,098
Miscellaneous ..	400,474	331,589	323,843
September 20 ..	907,969	813,329	809,752
September 13 ..	913,952	804,265	800,431
September 6 ..	797,740	695,094	662,357
August 30 .....	912,720	768,775	716,397
August 23 .....	899,750	761,108	683,906

Cumulative Total,  
38 Weeks ... 30,343,974 25,767,606 23,456,248

*In Canada.*—Carloadings for the week ended September 20 totaled 70,867, the heaviest so far this year. Total loadings a year ago were 63,422 and, in the preceding week this year, 70,421. Figures are those of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
<b>Total for Canada:</b>		
Sept. 20, 1941 .....	70,867	30,633
Sept. 18, 1941 .....	70,421	30,757
Sept. 6, 1941 .....	61,544	27,577
Sept. 21, 1940 .....	63,422	26,165
<b>Cumulative Totals for Canada:</b>		
Sept. 20, 1941 .....	2,267,435	1,113,866
Sept. 21, 1940 .....	1,984,003	924,895
Sept. 23, 1939 .....	1,762,096	775,979

### Railroads Paid \$398,724,967 in Taxes Last Year

Class I railroads in 1940 paid \$398,724,967 in taxes to federal, state and local governments, "the greatest amount in any one year on record," according to the Association of American Railroads. This was an average of more than \$1,089,000 per day.

The previous record was made in 1929 when the railroad tax bill amounted to \$398,384,711. Railway taxes in 1940 were an increase of \$40,279,891 compared with 1939 and an increase of \$55,531,177 compared with 1938.

Of the total 1940 taxes, \$213,845,061 or

53.6 per cent went to state and local governments and \$183,546,195 was paid to the federal government. The remaining \$1,333,711 was paid by those railroads in taxes to Canada, Mexico, Cuba and Hawaii. The amount of taxes paid to state and local governments decreased \$22,678,927 but federal taxes increased \$62,464,242 in 1940 compared with the preceding year.

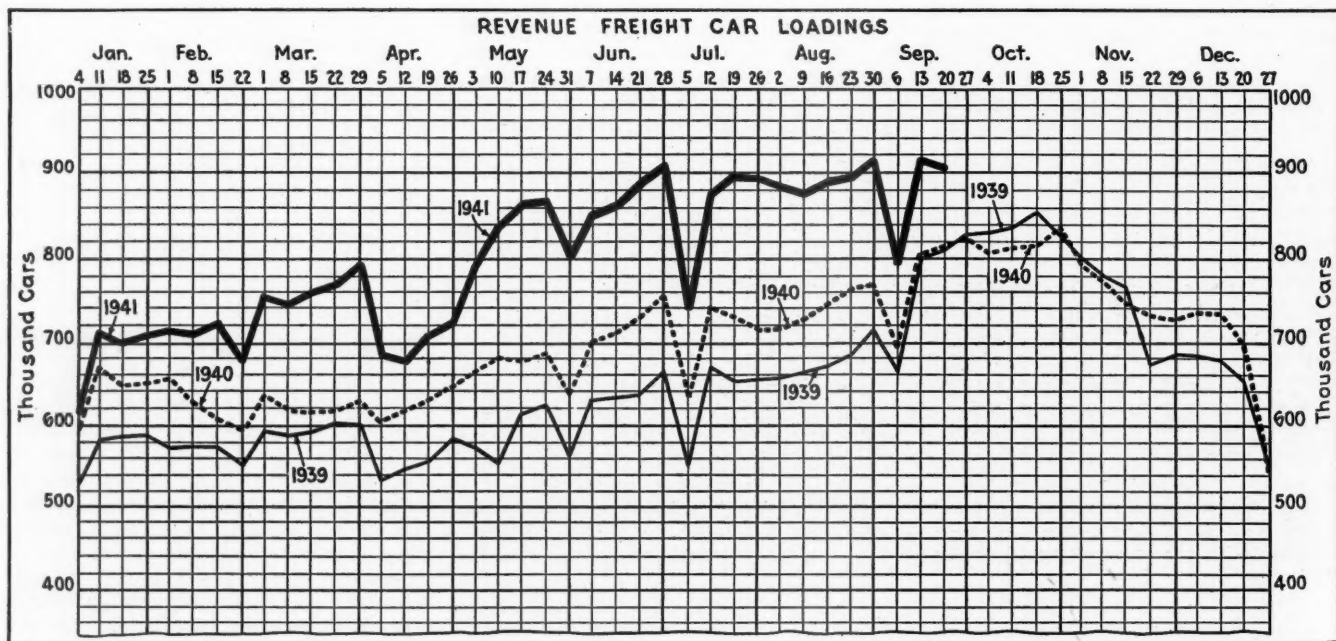
The 1940 taxes amounted to 36.8 cents out of each dollar of railway net earnings before taxes, compared with 37.7 cents in 1939; in 1929 they paid 24.1 cents out of each dollar of such net earnings. Out of each dollar of gross, the railroads last year paid in taxes 9.2 cents compared with 6.3 cents in 1929; in 1939 they paid 8.9 cents.

Taxes paid to the federal government by the Class I roads for the most part, represent income taxes for corporations and payroll taxes. The principal taxes paid to state and local governments are assessed on roadway and other property.

### Nelson Predicts Increased Use of Allocation Orders

Gradual evolution of the priorities system into a set-up wherein there will be increased use of allocation orders and thus a diminishing need for preference rating certificates was predicted in a September 28 statement from Donald M. Nelson, director of priorities, Office of Production Management. The allocation orders involve a direct allocation of materials; or, as Mr. Nelson put it, they are instructions "as to how much of what can be shipped to whom," thus providing "a clear-cut and exact way of dividing up any given scarce material."

Meanwhile, however, Mr. Nelson warned that "all existing preference ratings, orders, rules and regulations must be scrupulously obeyed in order to prevent interference with or unconscious sabotage of the defense program." He made this plain because the recent reorganization of the defense agencies, "together with speculation about increased emphasis on allocation of raw materials,



have given rise to some misunderstandings." He also revealed that with the increased emphasis on allocations there will come a like emphasis on classification of end uses of materials "in accordance with the interest of defense."

In other words, as Mr. Nelson sees it, "allocation on one end, classification on the other—these are two basic aspects of any sound, simple priorities system." He recognized that "the priorities system has caused some hardships," and promised to try, "in anything we do, to avoid causing any hardships which can be avoided." Meanwhile, any changes along the aforementioned lines "will be worked out gradually, over a period of time," and "the priorities instruments used now will continue to be used as parts of the system."

### Water Carriers Would Bring "Relief" to Railroads

Ways and means of "fully utilizing the inland water carriers in our national defense program" and thereby "relieving the present heavy burden on the railways" were considered at an informal meeting of inland water carrier representatives, held at the Department of Commerce in Washington, D. C., on September 26.

At the conference, said an announcement by Under Secretary of Commerce Wayne C. Taylor, a committee was named by the carrier representatives to explore in cooperation with Mr. Taylor "national defense traffic on inland rivers." Other representatives of the Department of Commerce who will be in on the explorations are Thomas E. Lyons and A. E. Sander-son, respectively, chief and assistant chief of the Department's Public Utilities Unit;

while Chester C. Thompson, president of the government-owned Inland Waterways Corporation, is a member of the carrier committee.

The "two major topics" on the committee's agenda are: "(1) The possibility of establishing a favorable balance of traffic by restoring the southbound movement which has seriously declined in recent weeks. This is to be considered in relation to relieving the present heavy burden on the railways. (2) The additional equipment expected to be required for national defense purposes."

Meanwhile, Mr. Lyons had recently given inland waterways a boost in his article entitled "Inland Waterways Vital to National Defense" which appeared in the September 27 issue of the Commerce Department's "Foreign Commerce Weekly."

### Baldwin School Shop Turns Out 1000th Skilled Worker

The Baldwin Locomotive Works recently graduated the 1,000th student from its school-shop at Eddystone, Pa., which was opened on October 18, 1940, in anticipation of the present emergency and shortage of skilled workers. By November of 1940 the Baldwin school was operating 24 hours daily under the direction of A. L. Logan, formerly superintendent of the Williamson Trade School. In 11 months it has turned out 1,000 capable machine tool operators.

Early this year arrangements were made for "pre-employment" instruction in the schools of Philadelphia and Delaware counties through state employment offices under federal sponsorship. After the proper period of instruction, the students finish their training with an intensive course of instruction at the Baldwin school-shop, and

are immediately put to work in the Baldwin plant as helpers and eventually as full-fledged operators of various machines. This so-called "vestibule" training has cut the time spent by learners in the school shop in half. Students in the Baldwin school are not taught to be all-around machinists, but are given specialized training in the operation of one type of machine. This makes for speed, and a more highly developed degree of skill. One man is taught the operation of a milling machine, another a drill press, others are trained to efficiently operate slotters, planers, grinders, automatic screw machines, etc.

The Standard Steel Works division of Baldwin received, on September 16, a Navy "E" pennant and Bureau of Ordnance flag, which were presented to Charles E. Brinley, president of the Baldwin Locomotive Works, by Rear Admiral P. E. Pettengill, commandant of the Navy Yard and superintendent of the Naval Gun Factory, Washington, D. C. Formerly an honor bestowed only on Navy personnel, the pennant was presented to Standard Steel for excellence and efficiency in supplying material for national defense. Three thousand employees, officers and their families were at the presentation.

### Fourth-Quarter Loadings Expected to Be 11.8 Per Cent Above 1940

Freight car loadings in the fourth quarter of 1941 are expected to be about 11.8 per cent above actual loadings in the same quarter of 1940, according to estimates compiled by the 13 Shippers' Advisory Boards and made public October 1.

On the basis of those estimates, loadings of the 29 principal commodities will be 7,052,638 cars in the fourth quarter, compared with 6,307,278 actual car loadings for the same commodities in the corresponding period in the preceding year.

All of the 13 Boards estimate an increase in carloadings for the fourth quarter, compared with the same period in the preceding year. The tabulation below shows actual carloadings for each district in the fourth quarter of 1940, the estimated loadings for the fourth quarter of 1941, and the percentage of increase or decrease:

Shippers' Advisory Boards	Actual Loadings Fourth Quarter 1940	Estimated Loadings Fourth Quarter 1941	Per Cent Increase
New England .....	105,449	115,991	10.0
Atlantic States .....	624,361	688,160	10.2
Allegheny .....	930,936	1,040,583	11.8
Ohio Valley .....	703,867	829,744	17.9
Southeast .....	724,064	796,766	10.0
Great Lakes .....	518,106	543,831	5.0
Central Western .....	224,618	251,620	12.0
Mid-West .....	911,837	1,033,172	13.3
Northwest .....	412,168	448,922	8.9
Trans-Missouri-Kansas	298,272	323,281	8.4
Southwest .....	379,053	450,048	18.7
Pacific Coast .....	265,517	297,695	12.1
Pacific Northwest ....	209,030	232,825	11.4
Total .....	6,307,278	7,052,638	11.8

The Shippers Boards estimate an increase in the fourth quarter compared with the same period one year ago in the loading of 24 of the 29 principal commodities included in the forecast. Decreases are estimated for five.

Among those commodities showing the greatest increase are the following: Agricultural implements and vehicles other than automobiles, 29.9 per cent; canned goods



President C. E. Brinley of the Baldwin Locomotive Works Congratulates E. W. Thompson, Philadelphia, Pa., the 1,000th Man to Complete the Course in the Free Training School Shop Conducted in the Eddystone (Pa.) Plant.

and all canned food products, including catsup, jams, jellies, olives, pickles and preserves, 27.7 per cent; gravel, sand and stone, 26.9 per cent; machinery and boilers, 23.9 per cent; brick and clay products, 20.9 per cent; cement, 19.3 per cent; chemicals and explosives, 18.5 per cent; paper, paper-board and prepared roofing, 17.7 per cent; hay, straw and alfalfa, 15.7 per cent; lime and plaster, 15 per cent; coal and coke, 14.9 per cent; ore and concentrates, 13.1 per cent; citrus fruits, 12.8 per cent; iron and steel, 12.1 per cent; sugar, syrup and molasses, 11.3 per cent; petroleum and petroleum products, 9.6 per cent; poultry and dairy products, 9.5 per cent; and lumber and forest products, 9.2 per cent.

The five commodities for which decreases are estimated follow: Automobiles, trucks and parts, 14.6 per cent; cotton seed and products, except oil, 10.5 per cent; cotton, 7.9 per cent; potatoes, 2.8 per cent and fresh fruits other than citrus fruits, 0.2 per cent.

### Anderson Named Head of Britain's Operating Group

Sir Alan G. Anderson, a notable figure in British shipping circles and a retired director of the London, Midland & Scottish, has been elected chairman of the British Railway Executive Committee, succeeding Sir Ralph Wedgwood, former general manager of the London & North Eastern, who has headed the committee for the last two years. In becoming chairman, Sir Alan also takes the title of Controller of Railways, a new position in the Ministry of War Transport. In this post he has the assistance, as deputy chairman, of Sir James Milne, general manager of the Great Western and a member of the Railway Executive Committee for the last two years; and Gilbert Szlumper, general manager of the Southern. The latter was appointed director-general of transport and movements at the War Office shortly after the outbreak of war, with the acting rank of major-general. In September, 1940, however, he relinquished this post to become Railway Control officer for the Minister of Transport. He will now devote his energies to co-ordination of all transportation agencies in the coal traffic.

The Railway Executive Committee has been operating Britain's railways since September, 1939, as an agency reporting to the Ministry of Transport. Upon its shoulders has fallen the burden of wartime transportation. The new chairman has been granted greater authority than that possessed by Sir Ralph and will have direct access to the Ministry of War Transport. The selection of a man prominent in ocean shipping and the grain trade and connected with finance only in the railroad field is probably an effort to give greater unity to the committee than employment of a high officer of one of the competing constituent railroads could achieve.

### Trains Change With the Clocks

With the general change in timetables on September 28, a number of railroads made important revisions representing speeding up of schedules and re-arrangements for public convenience. The New York Central speeded up its "Wolverine"

35 min. to New York and Chicago, with departure at 6:05 p.m. and arrival at 11:45 a.m. Departure time of the "Iroquois" from New York has been made 11:30 p.m. instead of 11:15, to accommodate theatre-goers departing from the west. It arrives in Chicago at 4:40 p.m. with easy connection with through trains to the Western roads.

The Pennsylvania established a new 17-hr. train from Chicago to New York named the "Pennsylvanian," which leaves Chicago at 5:30 p.m. and arrives in New York at 11:30 a.m., thereby offering the latest departure ever afforded on a fast schedule from Chicago to the east. Inauguration of this train will not increase use of equipment or daily mileage operated, as the "Golden Arrow," now leaving Chicago at 1:25 p.m. for the east, will be discontinued, in view of the fact that other and more convenient trains for the east are available.

The "Red Arrow," fast overnight train from Detroit, Mich., to the East, now departs at 5:50 p.m., 25 min. later, with arrival at New York at 8:50 a.m., as heretofore. This will shorten the run 25 min. and offer the latest evening departure from Detroit ever made by this train. The road has also filed application to discontinue two trains each way daily between Trenton, N. J., and Long Branch.

The Norfolk & Western revised schedules affecting 11 trains and speeded up several important runs. The through sleeping car schedule from New York to Bluefield, W. Va., via the Shenandoah Valley, was shortened by 65 min., leaving New York on P. R. R. train No. 9 at 7:50 p.m., instead of 6:45 p.m. From Harrisburg south the schedule remains the same as before. Fifty minutes has been shaved from the southbound run of No. 41, the "New York, Chattanooga & New Orleans Limited," between New York and Birmingham, Ala. It now leaves New York at 8:30 p.m., instead of 7:30 p.m. and arrives in Birmingham, Ala., at 8:55 p.m., instead of 8:45 p.m. There are no changes south of Birmingham. On the northbound run, the schedule of this train remains the same as heretofore until it reaches Knoxville, Tenn. It now leaves there at 2:55 p.m., instead of 2:40 p.m. and arrives in New York at 11:30 a.m., instead of 10:55 a.m. The N. & W.'s "Cavalier" now runs from Roanoke, Va., to Norfolk 20 min. faster, leaving Roanoke at 12:30 a.m., instead of 12:10 a.m., arriving in Norfolk at 7:30 a.m. as before. Train No. 12, operating from Bristol, Tenn., to Roanoke, has been speeded up 15 min., leaving Bristol at 5:30 p.m., instead of 5:15 p.m., and arriving in Roanoke at 10:20 p.m. as before.

The Lackawanna revised the schedule of its "Westerner," over-night train New York to Buffalo, having connections for Cleveland, Ohio, and Chicago, with a later departure from New York at 7 p.m. In its revised schedule this train will render the service heretofore performed by it and the "Buffalonian," Train No. 9. The latter train will be discontinued.

The New York, Susquehanna & Western added new runs to its suburban rail-car service between Paterson, N. J., and New York to provide transportation for commuters employed at odd hours on national

defense projects. Morning half-hour service to Paterson now starts at 6 a.m., instead of 7 a.m., while an extra eastbound run to New York has been added to leave Paterson at 12:45 a.m. and a westbound train added to leave Times Square (bus connection) at 1:30 a.m.

## A. A. R. Treasury Division Meeting

(Continued from page 545)

had returned to Colorado Springs for a meeting after a lapse of 26 years, the previous convention at that place having been held in 1915. After expressing thanks to the members of the various committees, "whose reports from year to year reflect only in small part the work done," Mr. Fink introduced Mayor Birdsall who delivered a brief welcoming message. Following Mr. Swan's brief and informal remarks concerning his observations of some of the problems confronting the rail carriers, Mr. Conn delivered an address in which he advocated that the railroads, "the country's largest industry, put its house in order in preparation for the post-war period of readjustment when they would no longer enjoy the earnings from abnormal defense traffic." Mr. Hopkins spoke next, on the proper approach to public relations work, concluding his address with the statement that it was the duty of the treasury officers as citizens, as well as part of their responsibilities as railroad men, to aid now in firmly establishing public policies that will protect private ownership of railroads against the advance of the forces that now endanger all private enterprise. During ensuing discussion relative to the treasury officers' part in the railroads' public relations program, a message from R. S. Henry, assistant to president of the A. A. R., was read to the convention. Mr. Henry stated that "we cannot measure\*\*\*the information and ideas about railroads spread through personal contacts of the treasury officers with that important part of the public with whom they deal every day—there is no way to put a gauge on these things, but there is no substitute for the sort of informed personal contact which spreads sound ideas."

The report of the advisory committee, summarized by Chairman Fink, comprised numerous subjects of a technical nature relating to such matters as the proposed railroad travel check system (Swanson Plan), upon which Carl Nyquist, secretary and treasurer of the Chicago, Rock Island & Pacific, presented a comprehensive report as chairman of the subcommittee which investigated the surety and other features of the plan, the report being subsequently adopted by the convention; uniform rules governing collection of freight charges—presented by Harry Hurst, assistant treasurer of the Pennsylvania, as chairman of the committee which drafted the rules adopted to supersede rules previously promulgated by the former Association of Railway Executives; joint credit arrangements—there are now 923 points served by railroads in the U. S. at which such ar-

rangements have been established and the Treasury Division is advancing this program so as to encompass other points; credit regulations prescribed by the I. C. C. for all modes of transportation (Ex Parte 73, MC-1 and 143); handling and release of order and advise shipments—the convention approved in principle a plan instituted in the Chicago Switching District for handling such shipments, the advisory committee to progress the matter from a national standpoint based upon experience under the Chicago plan; c.o.d. shipments; handling of bills of lading; carriers' liability bond; uniform forms of voucher checks and drafts; etc.

Reports of other committees were also submitted while those filed by the chairman of the seven sectional groups of the Division were unanimously adopted for incorporation in the proceedings of the meeting, which will also include the complete texts of addresses delivered, reports of all committees, etc. At the concluding session, the convention received and accepted certain revisions of the rules of order, to become effective with the next convention.

### Carl R. Gray, Jr., Explains Military Railway Service

In an address before the Telegraph and Telephone section of the Association of American Railroads at the Hotel Gibson, Cincinnati, Ohio, on September 25, Col. Carl R. Gray, Jr., executive vice-president of the Chicago, St. Paul, Minneapolis & Omaha, and manager, Military Railway Service, explained that the present organization of the Military Railway Service, which is assigned the operation of railway systems in combat zones forward of the area allowed for commercial operations, was based on years of thoughtful planning. Explaining that the organization of the Military Railway Service closely parallels standard railroad departments with appropriate military titles, Col. Gray said, in part, as follows:

"The operation and maintenance of standard military railways is a function of special Engineer Railway troops. Original railway construction and the reconstruction of an existing line is the function of general Engineer troops. The Chief Engineer, Theater of Operation, exercises supervision over all military railways in the theater of operations. The Engineer, Communications Zone, is responsible for the construction and reconstruction of all railways in the communications zone and for the operation and maintenance of all military railways in the entire theater of operations. This operation and maintenance of military railways falls to the Military Railway Service.

"Fundamentally, there is not much difference between the organization and functions of the Military Railway Service and the organization and manner of functioning of the Operating department of a standard steam railroad. Basically, the Manager, Military Railway Service, who has a wartime rank of Brigadier General, corresponds to the operating vice-president of any of our large American railroads. His headquarters are divided into a small headquarters detachment; and Operations department, looking after transportation and the movement of trains; an Equipment de-

partment, charged with the responsibility for the maintenance of locomotives and cars; a Track and Structures department, charged with the responsibility for the maintenance of the roadbed, bridges, signals and buildings; and a Stores department. Even the designated titles of the commissioned personnel are equivalent to the railroad positions held by the assistants, or staff, of the Manager.

"Depending upon the scope of the operations, the Manager, Military Railway Service will divide into grand divisions the standard military railway system to be operated. This Engineer Headquarters, Railway Grand Division, is commanded by a Colonel with the railroad title of general superintendent, and that headquarters is likewise divided into an Administrative section, a Transportation section, a Water Treatment section, an Engineering section, an Equipment section and a Stores section, and corresponds to a general manager's jurisdiction on an American commercial railroad.

"Depending upon the circumstances, a grand division is comprised of two or more railway divisions, each operated and maintained by a Railway Operating battalion, whose commander is a division superintendent with the rank of Lieutenant Colonel. These Engineer battalions, Railway Operating, are divided into a Battalion headquarters; a Headquarters and Service company; Company A, Maintenance of Way; Company B, Maintenance of Equipment; and Company C, Transportation. They correspond almost identically to the ordinary division superintendent's jurisdiction on an American commercial railroad.

"The Engineer battalions, Railway Shop, are organized along the lines of a standard back shop on any American steam railroad, and the battalion consists of an Erecting and Machine Shop company, a Boiler and Blacksmith Shop company, and a Car Repair company. The commander of this battalion is a Lieutenant Colonel, who shall be either an experienced superintendent of motive power and machinery, or a shop superintendent of a back shop on one of our big railroads. The location of these Shop battalions shall be determined by the Manager, Military Railway Service, and they shall be so situated as to take care of the heavy repairs of one or more grand division.

"It will be seen, then, that the policy of the War Department—which the American railroads have readily agreed to—is today to have the Military Railway Service of the army officered by practical railroad officers who will have appropriate ranks in the army and designated titles corresponding to the positions they occupy on an American railroad. In this way, the United States Government and the Corps of Engineers get the benefit of long years of experience of practical railroad men to do the job in time of war which they as railroad men are well qualified to handle. The officers of these Military Railway Service units are specialists in transportation and maintenance of equipment and way, and are capable of performing a real transportation service for the army. Assigned to each unit will be at least one regular army officer for liaison and a better understand-

ing of the military side of the operations by the practical railroad men.

"It is believed that the policy adopted by the War department, and concurred in wholeheartedly by the railroads of the United States, will produce an organization for the Military Railway Service that will be capable of performing satisfactorily the steam railroad transportation problems of the theater of operations."

### Ickes in Fury at J. J. Pelley

(Continued from page 546)

of 1,000 cars and had been able to get only 160. In refutation of this statement of Mr. Ickes, Chairman Maloney read into the record the results of a most recent survey made on last Saturday morning, September 27, by Mr. Pelley, which showed some 18,331 tank cars available but not used for a period of two days. The committee felt that this survey completely refuted the charge of Mr. Ickes and told him as much.

During the all-day session of grilling of the cabinet officer, Mr. Ickes repeatedly tried to assail Mr. Pelley's creditability as a witness, calling him a lobbyist and citing references to the A. A. R.'s activities in Washington as portrayed in various congressional investigations. He also cited statements made by Mr. Pelley at various times in an attempt to show that the A. A. R. chief had told one story of the condition of the railroads at one time and another story at another time. He characterized one of Mr. Pelley's recent statements over the Red Network of the National Broadcasting Company as "Pelley-anna."

Although Mr. Ickes was very hard on Mr. Pelley, calling him a lobbyist and propagandist who had successfully blocked two pipe lines, yet he was not at all critical of Ralph Budd, defense transportation commissioner, whose recent testimony before the committee completely corroborated that of Mr. Pelley. Mr. Ickes did say, however, that only last week Mr. Budd had personally delivered to him a letter stating that the railroads could not be expected to solve the petroleum shortage. He also felt that Mr. Budd had been helpful in the situation, while Mr. Pelley had confused the public mind.

Asked by the committee as to whether he felt the government should requisition all tank cars and use them to haul oil, Mr. Ickes declared that he did not think this would be a sound policy. Also, he did not believe that either his organization or the Interstate Commerce Commission had the power to take such action.

During the session Mr. Ickes bitterly assailed the committee for investigating his administration and telling the public that no shortage of oil existed. He admitted that his conservation program has been a failure, and he inferentially accused Mr. Pelley of blocking his pet project for a 24-inch pipe line from Texas to New York. He did tell the committee that although he had been unsuccessful in his attempt to

get steel plates for the line, he would soon ask the Supply Priorities and Allocations Board for steel for seamless tubes. He felt that such a line could be built in six months and that after November there would be sufficient seamless tubing available.

Meanwhile, Donald M. Nelson, director of priorities, has issued an order providing that total deliveries of gasoline by all primary suppliers importing to or producing motor fuel in the Atlantic Coast area shall be 10 per cent less than average monthly deliveries for the months of May through July, 1941.

## Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

**ALLIED RAILWAY SUPPLY ASSOCIATION.**—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

**AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.**—W. R. Curtis, F. T. R. M. & O. R. R., 327 S. La Salle St., Chicago, Ill.

**AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.**—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo. Annual meeting, October 7-9, 1941, St. Francis Hotel, San Francisco, Cal.

**AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.**—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y. Annual meeting, November 11-13, 1941, Del Monte Hotel, Del Monte, Cal.

**AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.**—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, May 12-14, 1942, Hotel Stevens, Chicago, Ill.

**AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.**—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill. Annual meeting, January 16-17, 1942, St. Louis, Mo.

**AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.**—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

**AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.**—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill. Annual meeting, October 14-16, 1941, Hotel Stevens, Chicago, Ill.

**AMERICAN RAILWAY CAR INSTITUTE.**—W. C. Tabbert, 19 Rector St., New York.

**AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.**—G. E. Smith, New York Central R. R., La Salle Street Station, Chicago, Ill. Annual meeting, October 27-29, 1941, Palmer House, Chicago, Ill.

**AMERICAN RAILWAY ENGINEERING ASSOCIATION.**—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

**AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.**—W. M. Jones, Baltimore & Ohio R. R., 1105 B. & O. R. R. Bldg., Baltimore, Md. Annual meeting, November 14-15, 1941, Hotel Monteleone, New Orleans, La.

**AMERICAN SHORT LINE RAILROAD ASSOCIATION.**—J. H. Hunt, Tower Bldg., Washington, D. C.

**AMERICAN SOCIETY OF MECHANICAL ENGINEERS.**—C. E. Davies, 29 W. 39th St., New York, N. Y. Railroad Division, C. L. Combes, *Railway Age*, 30 Church St., New York, N. Y.

**AMERICAN TRANSIT ASSOCIATION.**—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

**AMERICAN WOOD PRESERVERS' ASSOCIATION.**—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C. Annual meeting January 27-29, 1942, Nicollet Hotel, Minneapolis, Minn.

**ASSOCIATION OF AMERICAN RAILROADS.**—H. J. Forster, Transportation Bldg., Washington, D. C.

Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.

Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 17-19, 1942, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, October 28, 1941, Hotel Sherman, Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill. Annual meeting, October 28-30, 1941, Hotel Sherman, Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell, Transportation Bldg., Washington, D. C.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, 1942, Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division.—E. W. Coughlin, Transportation Bldg., Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

**ASSOCIATION OF RAILWAY CLAIM AGENTS.**—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill. Annual meeting, June 17-19, 1942, Hotel Statler, Buffalo, N. Y.

**BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.**—R. Y. Barham, Armco Railroad Sales Company, 310 S. Michigan Ave., Chicago, Ill. Exhibit in connection with American Railway Bridge and Building Association Convention, October 14-16, 1941, Hotel Stevens, Chicago, Ill.

**CANADIAN RAILWAY CLUB.**—C. R. Crook, 4415 Marcell Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

**CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.**—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

**CAR DEPARTMENT OFFICERS' ASSOCIATION.**—Frank Kartheiser, Chief Clerk, Mechanical Dept., C. B. & Q., Chicago, Ill.

**CAR FOREMEN'S ASSOCIATION OF CHICAGO.**—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

**CENTRAL RAILWAY CLUB OF BUFFALO.**—Mrs. M. D. Reed, 1817 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

**EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.**—J. T. Bougher, 424 W. 33rd St. (11th floor), New York, N. Y.

**LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.**—J. E. Goodwin, Missouri Pacific R. R., No. Little Rock (P. O. Little Rock), Ark.

**MASTER BOILER MAKERS' ASSOCIATION.**—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

**NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.**—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. 1942 meeting, Dallas, Tex.

**NATIONAL RAILWAY APPLIANCE ASSOCIATION.**—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill. Exhibit in connection with A. R. E. A. Convention, March 16-19, 1942, International Amphitheatre, Chicago, Ill.

**NEW ENGLAND RAILROAD CLUB.**—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month,

except June, July, August and September, Hotel Touraine, Boston, Mass.

**NEW YORK RAILROAD CLUB.**—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September, and December, 29 W. 39th St., New York, N. Y.

**PACIFIC RAILWAY CLUB.**—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, and second Friday of each alternate month, at Hotel Hayward, Los Angeles.

**RAILWAY BUSINESS ASSOCIATION.**—P. H. Middleton, First National Bank Bldg., Chicago, Ill. Annual meeting, November 13, 1941, Hotel Stevens, Chicago, Ill.

**RAILWAY CLUB OF PITTSBURGH.**—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

**RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.**—J. McC. Price, Allen-Bradley Company, 600 W. Jackson Blvd., Chicago, Ill. Annual meeting and exhibit, October 28-30, 1941, Hotel Sherman, Chicago, Ill.

**RAILWAY FUEL AND TRAVELING ENGINEERS ASSOCIATION.**—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill.

**RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.**—J. D. Conway, 1647 Oliver Bldg., Pittsburgh, Pa.

**RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.**—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

**RAILWAY TIE ASSOCIATION.**—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

**ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.**—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.

**SIGNAL APPLIANCE ASSOCIATION.**—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

**SOUTHERN AND SOUTHWESTERN RAILWAY CLUBS.**—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

**SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.**—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

**TORONTO RAILWAY CLUB.**—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

**TRACK SUPPLY ASSOCIATION.**—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago, Ill.

**UNITED ASSOCIATIONS OF RAILROAD VETERANS.**—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y. Annual meeting, October 11-12, 1941, Cleveland, Ohio.

**WESTERN RAILWAY CLUB.**—E. E. Thulin (Executive Secretary) Earl Thulin Company, 122 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except June, July, August and September, Hotel Sherman, Chicago, Ill.

## Accounting Orders

New accounts to cover situations where in railroads have elected to observe amortization accounting on defense projects for income tax purposes have been prescribed by the Interstate Commerce Commission, Division 1, in recent orders which become effective January 1, 1942. Also, effective next January 1, the commission has issued revised instructions in connection with accounting for adjustments for converted property; while it has further postponed until January 1, 1943, the effective date of its order of July 13, 1937, prescribing operating-revenue account 117, Protective Service—Perishable Freight.

In the revenues-and-expenses classification the new amortization accounts are: 270½, Road—Amortization of Defense Projects; 331½, Equipment—Amortization of Defense Projects. In the income, profit and loss and general balance sheet classification they are: 775½, Accrued Amortization of Defense Projects—Road; 776½, Accrued Amortization of Defense Projects—Equipment.

## Equipment and Supplies

### Equipment Buying Lull Continues

But inquiries are picking up despite the continued lag in deliveries

Continued inactivity ruled the railway equipment market during September with the volume of purchases remaining at the lower level of the preceding month. Indicative of the temporary thinness of the current market, orders placed last month by two railroads alone comprised more than half of the total volume of equipment purchased. Thus an order by the Southern Pacific comprised 20 locomotives (Diesel-electric of 1,000-hp.) of a total of 24 reported as placed by the carriers only. Similarly, the Missouri Pacific, in filing its inquiry of July for 2,850 freight cars, accounted for most of the 3,465 freight cars ordered last month and took from the market its largest reported inquiry.

New inquiries for equipment, as distinct from orders, also remained at a low ebb during most of September—although plans and programs of new purchases, some of which have not yet reached the inquiry stage, began to be reported at the end of the month. Thus the Lehigh Valley is planning to purchase 1,000 coal cars but is not as yet in the market for this equipment (*Railway Age* of September 27); the Reading has also authorized construction of 1,000 coal cars and various railroads of the United States Steel Corporation are

reported to be planning the acquisition of a total of 2,635 cars (announced elsewhere in these pages). Because the week ended October 4 overlaps both September and October, orders and inquiries reported during that week are included in October statistics.

A comparison of railway equipment purchases for domestic service, as reported in the *Railway Age* during September, with orders placed in the preceding month of August and the corresponding month of September last year follows:

#### September Orders Compared

	Sept. 1941	Aug. 1941	Sept. 1940
<b>Locomotives:</b>			
Steam .....	12	2	21
Diesel-electric, etc. ....	42	99	54
Electric .....	..	..	..
<b>Total Locos .....</b>	<b>54</b>	<b>101</b>	<b>75</b>
Freight cars .....	3,465	2,650	9,632
Passenger cars .....	3	2	2

Of the 12 steam locomotives purchased last month, eight of the 2-8-0 type were ordered by the United States Army, and four fireless units by industrial companies. The railroads purchased 24 of the 42 Diesel locomotives ordered and industrial companies the remaining 18. Diesel units ordered by the railroads comprised 20 of 1,000-hp. and four of 44-tons; all 18 units ordered by industrial companies were Diesel-hydraulics of 20 to 30 tons each.

Freight car orders in September were divided 3,360 by the carriers, 100 by an industrial company, and five (tank cars for experimental purposes) by a car builder. Of the total, 210 were placed with railroad company shops. Purchases included 1,750 box, 750 gondola, 600 hopper, 200 caboose, 150 flat, five tank, and ten transformer cars.

#### Equipment Orders—First Nine Months

Volume of equipment orders placed during the first nine months of this year and comparison with the corresponding nine

month of last year is shown hereunder. Freight car totals have been adjusted to give effect to the cancellation by the Missouri & Arkansas of an order for 100 cars placed in July.

	First Nine Months		
	1941	1940	Increase
<b>Locomotives:</b>			
Steam .....	301	159	142
Diesel-electric, etc. ....	686	331	355
Electric .....	26	11	15
<b>Total Locos. ....</b>	<b>1,013</b>	<b>501</b>	<b>512</b>
Freight cars .....	108,963	38,665	70,298
Passenger cars .....	621	217	404

Despite the falling-off in orders during the past two months, cumulative totals for the first nine months of this year have reached impressive proportions. Cumulative locomotive orders have topped the 1,000 mark, only 217 under the total ordered during the full year 1929, and a greater number than has been placed in any other full year since 1926. Similarly, freight car orders are only 2,358 under the number placed during the full year 1929, and exceed the total placed in any other full year since 1924. Volume of passenger-train car orders already rank 1941 as one of the best years for this type of equipment in the past decade.

A division of the 1,013 locomotives ordered during the first three quarters of 1941 according to purchases placed by railroads, industrial companies, and United States Government departments, is shown hereunder:

	First Nine Months Locomotive Orders			
	Steam	D.-E.	Elec.	Total
Railroads .....	277	511	26	814
Industrial Cos. ....	10	61	..	71
U. S. Gov't. ....	14	114	..	128
<b>Total .....</b>	<b>301</b>	<b>686</b>	<b>26</b>	<b>1,013</b>

A further analysis by horsepower of the Diesel-electric, gas-electric, and other internal-combustion type locomotives ordered was as follows:

	Diesel Locos.—First Nine Months 1941			
	R.R.s.	Indus.tries	U.S. Gov't.	Total
<b>Horsepower:</b>				
5400 .....	30	..	..	30
4000 .....	25	..	..	25
2700 .....	1	..	..	1
2000 .....	30	..	..	30
1000 .....	209	1	..	210
600 or 660 .....	127	4	..	131
less than 600 ...	89	56	114	259
<b>Total .....</b>	<b>511</b>	<b>61</b>	<b>114</b>	<b>686</b>

Freight car purchases during the first nine months were allocated 31,060 to the railroads' own shops and 77,903 to car builders. Approximately 60 per cent of the number ordered were box cars. Purchases comprised 64,944 box, 19,639 hopper, 14,905 gondola, 3,095 flat, 2,585 refrigerator, 1,183 tank, 500 stock, 1,297 caboose, and 815 miscellaneous cars.

#### Lag in Deliveries Continues

Freight car deliveries during August, the latest period for which this data is now available, exceeded slightly orders placed during that month, and it is expected that this situation prevailed during September. Back-log of orders on builders' books, however, still remains at almost the highest level reached since the current buying wave began in June of last year, and, due chiefly to the continued lack of steel, is

### Domestic Equipment Orders Reported in Issues of the Railway Age in September 1941

#### LOCOMOTIVES

Date	Name of Company	No.	Type	Builder
Sept. 6	Southern Pacific .....	15	Diesel-electric Sw.	American Locomotive Co.
		5	Diesel-electric Sw.	Baldwin Locomotive Works
Sept. 6	Arundel Corporation & Construction Engineering Co. ....	10	Diesel-hydraulic	Whitcomb Locomotive Co.
Sept. 6	Republic Mining & Manufacturing Co. ....	3	Diesel-hydraulic	Whitcomb Locomotive Co.
Sept. 6	Alabama Drydock & Shipbuilding Co. ....	2	Diesel-hydraulic	Whitcomb Locomotive Co.
Sept. 6	Aluminum Ore Co. ....	1	Diesel-hydraulic	Whitcomb Locomotive Co.
Sept. 6	Louisiana Shipyards, Inc. ....	1	Diesel-hydraulic	Whitcomb Locomotive Co.
Sept. 6	J. E. Baker Co. ....	1	Diesel-hydraulic	Whitcomb Locomotive Co.
Sept. 13	Pennsylvania Power & Light Co. ....	1	Steam Fireless	H. K. Porter Co.
Sept. 20	Norton Company .....	1	Steam Fireless	H. K. Porter Co.
Sept. 20	Washington & Old Dominion ..	3	Diesel-electric Sw.	General Electric Co.
Sept. 20	Crucible Steel Co. ....	1	Steam Fireless	H. K. Porter Co.
Sept. 20	U. S. Army .....	8	2-8-0	Lima Locomotive Works
Sept. 27	Louisiana Southern .....	1	Diesel-electric Sw.	General Electric Co.
Sept. 27	Stone & Webster Engineering Co. ....	1	Steam Fireless	H. K. Porter Co.

#### FREIGHT CARS

Sept. 6	American Car & Foundry Co.	5	Tank	American Car & Fdy. Co.
Sept. 6	Missouri Pacific .....	1,450	Box	American Car & Fdy. Co.
		50	Cov. Hopper	American Car & Fdy. Co.
		50	MT-DE Coal	Mt. Vernon
		500	Hopper	Pullman-Standard
		650	Gondola	Pressed Steel Car
		150	Flat	Bethlehem Steel Co.
		100	Gondola	Bethlehem Steel Co.
Sept. 13	Bethlehem Steel Co. ....	10	Transformer	Company Shops
Sept. 13	New York, New Haven & Hartford .....	200	Caboose	Company Shops
Sept. 13	Atchison, Topeka & Santa Fe ..			
Sept. 27	Chicago, Indianapolis & Louisville .....	300	Box	Pullman-Standard

#### PASSENGER-TRAIN CARS

Sept. 13	Louisville & Nashville .....	3	AC Coach	Edward G. Budd Mfg. Co.
----------	------------------------------	---	----------	-------------------------

not being reduced at the rate originally planned for this time by the car builders. The consequent availability of only distant delivery dates for newly-ordered equipment chiefly explains the hesitancy on the part of the railroads to re-enter the market in large volume. The situation with respect to production in railroad company shops is the same and was expressed last week by E. W. Scheer, president of the Reading, in announcing the intended construction of 1,000 hopper coal cars by that company "if and when material becomes available."

In regard to new orders for steam locomotives, it has been reported that the United States War Department is inquiring for up to 200 locomotives of the 2-8-2 type, (*Railway Age* of September 27), the materials for which are to receive an A-1-a priority rating, and for from five to 25 locomotives of the 2-8-8-2 type (reported elsewhere on these pages), the materials for which are to receive an A-1-i priority rating. The effect of such orders, if placed, preferred above the locomotives ordered by the railroads, could operate only to delay further the delivery schedules for much needed equipment of this type also.

### Milwaukee to Build 2,025 Cars

The Chicago, Milwaukee, St. Paul & Pacific has asked the Interstate Commerce Commission for permission to sell equipment trust certificates amounting to \$2,744,000 to finance the construction, in the company's own shops, of a total of 2,025 freight cars including the following: 1,000 box, 500 automobile, 500 hopper-coal, and 25 caboose cars.

### LOCOMOTIVES

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies and Accounts, is inquiring for one Diesel-electric locomotive for delivery to Charleston, S. C.—schedule 8858.

UNITED STATES WAR DEPARTMENT is reported to be inquiring for from five to 25 meter-gage steam locomotives of the 2-8-8-2 type for the Yunnan-Burma railway in China. The materials for these locomotives are to receive an A-1-i priority rating.

### FREIGHT CARS

#### United States Steel Rys. to Purchase 2,635 Cars

The United States Steel Corporation is reported to be planning the purchase of a total of 2,635 freight cars for certain of its railroad companies as follows:

Elgin, Joliet & Eastern  
1,000 50-ton gondola  
200 flat  
Bessemer & Lake Erie  
425 90-ton hopper  
500 50-ton gondola  
Birmingham & Southern  
100 50-ton box  
100 70-ton gondola  
10 50-ton cement

The purchase of an additional 300 cars of various types is reported to be planned

for certain other companies controlled by this corporation.

THE BOSTON & MAINE has ordered ten cabooses from the Pullman-Standard Car Manufacturing Company.

THE PITTSBURGH & WEST VIRGINIA is planning to build 100 50-ft. 6-in. all steel box cars of 50 tons' capacity in its own shops.

THE UNITED STATES NAVY DEPARTMENT has ordered three 40-ft. steel flat cars of 50-tons' capacity and one 40-ft. steel box car of 50-tons' capacity from the Haffner-Thrall Car Company—schedule 8428.

THE EGYPTIAN STATE RAILWAYS were reported in the *Railway Age* of September 27 to be inquiring for a total of 2,860 freight cars of 40 tons' capacity. These cars are intended for military use and will be of ten or 20 tons' capacity.

THE CHICAGO GREAT WESTERN has ordered 200 50 ft.-6 in. merchandise cars of 50 tons' capacity from the Pullman-Standard Car Manufacturing Company. The inquiry for this equipment was reported in the *Railway Age* of August 9.

THE READING has received authorization by its board of directors for the construction of 1,000 steel hopper coal cars of 55-tons' capacity at an estimated cost of \$2,500,000. E. W. Scheer, president of the railroad, announced that the cars would be built in the company's own shops at Reading, Pa., "if and when material becomes available."

### PASSENGER CARS

THE BOSTON & MAINE is reported to be inquiring for 21 60-ft. all-steel baggage cars.

### IRON AND STEEL

THE UNITED STATES WAR DEPARTMENT has placed an order for rails and track material with the Hyman Michaels Company of San Francisco, Cal., at cost of \$70,662.

### SIGNALING

THE WHEELING & LAKE ERIE has placed an order with the Union Switch & Signal Co. covering the necessary materials for an all-relay electric interlocking at its Ironville, Ohio, crossing with the Toledo Terminal. The new plant will replace an existing mechanical interlocking and, in addition to the control machine, the order involves style M-2 low voltage switch movements, searchlight high and color light dwarf signals, necessary relays, rectifiers, transformers, with factory wired housings, etc. The field installation work will be carried out by the railroad's regular signal construction forces.

THE NEW YORK, CHICAGO & ST. LOUIS has placed an order with the Union Switch & Signal Co. for materials necessary to install a centralized traffic control system

covering 19 miles of single track between Vermilion and Kimball, Ohio, with the control point at Conneaut, Ohio. The contract includes, along with the control machine and centralized traffic control system apparatus, style M-22A switch machines, with necessary relays, rectifiers and transformers, housings, etc. The code control line circuits will be superimposed upon the existing dispatcher's telephone line circuit. The Nickel Plate's regular construction forces will carry out the field installation work.

### MOTOR VEHICLES

The Southeastern Greyhound Lines, Lexington, Ky., have ordered 24 motor coaches from the a.c.f. Motors Company.

## Supply Trade

W. S. Carlisle, representative in charge of industrial sales for the White Lead department of the National Lead Company, Chicago, has retired. Mr. Carlisle, during the past year, was a vice-president of the Bridge and Building Supply Men's Association, and for a number of years had served as secretary of that association.

W. C. Thatcher, vice-president of the Gale Service & Construction Co., Chicago, has been elected president, succeeding Frederick A. Gale who died on July 10. O. C. Rome has been elected vice-president to succeed Mr. Thatcher. Before their connection several years ago with the Gale Service & Construction Co., both Mr. Thatcher and Mr. Rome were associated for 22 years with the National Boiler Washing Company of Illinois.

Louis B. Neumiller, whose election as president of the Caterpillar Tractor Company, Peoria, Ill., was reported in the *Railway Age* of September 27, was born in Peoria on January 14, 1896, and entered business in 1915 as a stenographer and



Louis B. Neumiller

blue print clerk in the engineering department of the Caterpillar Tractor Company. In 1918 he was given a four-months leave

of absence to help the United States ordinance engineering department at Alliance, Ohio, and after his return was assigned work on various assembly lines in the factory. He then returned to the engineering department as drafting room supervisor, and in 1922 he was promoted to parts manager. In 1931 he was advanced to general service manager, and in 1937 he was appointed sales manager for the Central division. Six months later he was appointed director of industrial relations, and in 1938 he was elected vice-president in charge of the service, parts, public relations and industrial relations and training departments, which position he held until his election to the presidency of the company.

## OBITUARY

**J. J. Bonner**, assistant secretary of the Pullman-Standard Export Corporation, died September 27. He was 52 years of age.

**John L. Osborne**, assistant general superintendent of the General Railway Signal Company, died September 20. He was 61 years of age.

**Frederick W. Werner**, assistant to the president of the United States Steel Corporation in charge of coke by-products sales, died September 29 in the Flushing hospital, Long Island, N. Y., after an illness of several months. He was 52 years of age.

**James T. Frame**, for the past eight years sales representative for the Chicago branch of the Fairbanks, Morse & Co., has died. Early in his career, Mr. Frame had served with a number of railroads including the Pennsylvania, the Chicago Great Western, and the Great Northern. He left his position as general superintendent of the Structural Engineering Co., Dayton, Ohio, to join the construction division of Fairbanks, Morse & Co. as sales engineer in 1918 and held this latter position until 1933 when he was transferred to the Chicago branch.

## Construction

**SOUTHERN PACIFIC.**—The Bureau of Reclamation of the Department of the Interior has awarded a contract amounting to \$58,290 to R. G. Clifford, South San Francisco, Cal., for the construction of a locomotive fuel-supply station at Buckeye, Cal., one of the railroad sidings of the Southern Pacific's relocated line around Shasta Dam reservoir north of Redding, Cal. Included in the contract is the construction of a one-story, 26-ft. by 46-ft. powerhouse and steam and oil lines from the powerhouse to unloading and service sumps, unloading pits, and the oil storage tank and oil column. The oil-storage tank is being furnished under another contract, which was reported in the *Railway Age* of August 30.

## Financial

**ATLANTIC COAST LINE.—Abandonment.**—This road has applied to the Interstate Commerce Commission for authority to abandon a 17-mile branch line extending from Altoona, Fla., to Astor.

**ATLANTIC COAST LINE.—Abandonment.**—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon that part of a branch line extending north and west from Micanopy, Fla., to Tacoma, five miles.

**ATLANTIC COAST LINE.—Abandonment.**—This company has been permitted by Division 4 of the Interstate Commerce Commission to abandon a branch line extending northwest from Bishopville, S. C., to Lucknow, 7.1 miles.

**BOSTON & MAINE.—Abandonment.**—This company has asked the Interstate Commerce Commission for authority to abandon two sections of its Central Massachusetts branch extending from Norwotuck, Mass., to Canal Junction, 8.5 miles, and from Forest Lake, Mass., to Creamery, 10.5 miles.

**CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Equipment Trust Certificates.**—This company has asked the Interstate Commerce Commission for authority to assume liability for \$2,744,000 of equipment trust certificates, maturing in 14 equal semiannual installments of \$196,000 on May 1 and November 1, beginning May 1, 1942 and ending November 1, 1948. The proceeds will be used as 50 per cent of the purchase price of new equipment costing a total of \$5,488,750 and consisting of 1,000 40 ft. 6 in., all-steel box cars; 500 40 ft. 6 in., all-steel automobile cars; 500 50-ton, self-clearing hopper coal cars; and 25 steel cabooses.

The company cites as evidence of its need of the new equipment the fact that its car loadings have greatly increased over the past year and the additional circumstance of the taking off of several ships from the intercoastal runs, thus shifting much of the intercoastal business to its rails. In view of the fact that the intercoastal business necessitates long hauls, the carrier feels that it will need additional cars to take care of the added tonnage.

**CHICAGO, BURLINGTON & QUINCY.—Abandonment.**—Acting on a request of this company Division 4 of the Interstate Commerce Commission has dismissed without prejudice its application in Finance Docket No. 13300 wherein authority was requested to abandon a line extending from Sterling, Colo., to Cheyenne, Wyo., 105 miles. The company had asked the commission to suspend action on the application for a period of one year. Details of the company's request to the commission were given in the *Railway Age* of September 13, page 426.

**COEUR D'ALENE & PEND D'OREILLE.—Abandonment.**—This company has been authorized by Division 4 of the Interstate

Commerce Commission to abandon a branch line extending from Corbin Junction, Idaho, to Bayview, 11.6 miles.

**CRYSTAL RIVER-CRYSTAL RIVER & SAN JUAN.—Abandonment.**—These two companies have been authorized by Division 4 of the Interstate Commerce Commission to abandon their lines (all operated by the C. R. & S. J.) extending from Carbondale, Colo., to Marble, approximately 28 miles.

**DEKALB & WESTERN.—Abandonment.**—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from Electric Mills Junction, Miss., to Electric Mills, 4.6 miles.

**ERIE.—Intervention of the Chicago & Erie.**—The Chicago & Erie has asked the Interstate Commerce Commission to include it as one of the parties to a recent application of the Erie in Finance Docket No. 11915 in which the latter seeks authority to acquire the properties of the Chicago & Erie.

**LEHIGH VALLEY.—Abandonment by the Loyalsock.**—The Loyalsock and the Lehigh Valley, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof extending from Noxen, Pa., to Splash Dam, 9.7 miles.

**MISSOURI PACIFIC.—Equipment Trust Certificates.**—This road awarded, on October 1, a \$1,150,000 issue of equipment trust certificates to Harris, Hall & Co., and associates, on a bid of 100.91 for 2s. The certificates, due from 1942 to 1951, were re-offered to the public at prices to yield 0.40 to 2.10 per cent, according to maturity.

**MISSOURI PACIFIC-ATCHISON, TOPEKA & SANTA FE.—Construction and Operation.**—Examiner Jerome K. Lyle of the Interstate Commerce Commission would have Division 4 make the following findings:

1. That it is not consistent with the public interest for the Northeast Oklahoma (1) to operate under trackage rights, over the line of the Joplin-Pittsburg from Cherokee Junction, Kans., to Chicopee, two miles, and (2) (a) to construct a connection between the lines of the Joplin-Pittsburg and the Atchison, Topeka & Santa Fe at Chicopee, Kans., 1,314 ft., and (b) to construct a line extending from a point west of Carona, Kans., westerly to a connection with the industry tracks of the Pittsburg & Midway Coal Mining Company at Mineral, 1.6 miles.

2. That, on the other hand, it is consistent with the public interest for the Missouri Pacific to operate from a point known as P. & M. Junction, Kans., over a track of the Pittsburg & Midway Coal Mining Company to a connection with a track owned by the Missouri-Kansas-Texas, 1.4 miles, and thence over tracks owned by the M. K. T. to a connection with tracks of the mining company at Mineral, 3.5 miles.

Examiner Lyle takes the position that the Missouri Pacific connection with the coal mine is already in operation, while

the Northeast Oklahoma operation would necessitate the expenditure of some \$74,000 for the construction of two miles of track and the rehabilitation of another four miles, and that it is more in the public interest to permit the Missouri Pacific to continue its operation although it has been carried on without authority from the commission.

**MONTANA, WYOMING & SOUTHERN.—Stock.**—This company has been authorized by Division 4 of the Interstate Commerce Commission to issue 10,000 shares of common capital stock without nominal or par value in exchange, on a share for share basis, for an equal number of shares of outstanding common capital stock with a par value of \$100 a share.

**NEW YORK CENTRAL.—Acquisition of Chicago, Attica & Southern.**—The New York Central and the Chicago, Attica & Southern have filed with the Interstate Commerce Commission a joint application asking that the order in Finance Docket No. 5690 (the proceeding involving N. Y. C. leases of the Cleveland, Cincinnati, Chicago & St. Louis, Michigan Central and Chicago, Kalamazoo & Saginaw) be modified so that N. Y. C. will no longer be required to acquire the Attica. The application states that new through-route and joint-rate arrangements are to be set up to give the Attica additional overhead traffic.

**NEW YORK, NEW HAVEN & HARTFORD.—Notes of the Union Freight Company.**—Division 4 of the Interstate Commerce Commission has modified its report and order in Finance Docket No. 12535, wherein it authorized the Union Freight Company to issue in favor of the New York, New Haven & Hartford a promissory note in the amount of \$192,000, so as to limit the amount of the note to \$90,000.

**NORFOLK & WESTERN.—Abandonment.**—This road has applied to the Interstate Commerce Commission for authority to abandon its Reed Island branch, extending from Allisonia, Va., to Betty Baker Mines, 12.2 miles.

**NORFOLK SOUTHERN.**—This company has been authorized by Division 4 of the Interstate Commerce Commission to construct a line extending from Brickhaven Station, N. C., northerly to a power plant of the Carolina Power & Light Company, two miles.

**READING.—Abandonment.**—This company has requested authority from the Interstate Commerce Commission to abandon its Schuylkill & Susquehanna branch extending from Pine Grove Pa., to Auchenbach, 1.6 miles.

**ROBY & NORTHERN.—Abandonment.**—This road has applied to the Interstate Commerce Commission for authority to abandon its 4.7-mile line extending from Roby, Tex., to a connection with the Missouri-Kansas-Texas at North Roby.

**SEABOARD AIR LINE.—Equipment Trust Certificates.**—Receivers for this road have applied to the Interstate Commerce Commission for approval of a plan whereby they would issue \$3,552,000 of 2½ per cent

equipment trust certificates, series KK, to be purchased at par by the Reconstruction Finance Corporation or sold with the guarantee of that agency. The certificates would mature in 24 semi-annual installments of \$148,000 each on April 1 and October 1 of each year from April 1, 1942, to October 1, 1953. The equipment, to be purchased at a total cost of \$4,838,479, includes: Eight 1,000-hp. Diesel-electric switching locomotives, three of them to be built by the Baldwin Locomotive Works, three by the American Locomotive Company, and two by the Electro-Motive Corporation; two 2,000-hp. Diesel-electric passenger locomotives and three 5,400-hp. Diesel-electric freight locomotives to be built by Electro-Motive; 500 50-ton, all-steel box cars from Pullman-Standard Car Manufacturing Company; 100 50-ton, all-steel flat cars and 50 70-ton, all-steel cement cars from Greenville Steel Car Company; and 100 70-ton, all-steel hopper cars from Bethlehem Steel Company.

**SOUTHERN PACIFIC.—Abandonment by the Pacific Electric.**—The Pacific Electric has asked the Interstate Commerce Commission for authority to abandon a portion of its Alhambra line extending from Alhambra, Calif., to Temple City, 5.1 miles, together with 1.1 miles in San Gabriel, Calif., a total of 6.2 miles.

**SOUTHERN PACIFIC.—Bonds of the Central Pacific.**—The Central Pacific has asked the Interstate Commerce Commission for authority to extend the maturity of \$8,500,000 of Nevada & California first mortgage, six per cent bonds maturing on November 1, 1941, to November 1, 1951, with the interest rate remaining unchanged during the extended period. The bonds are owned by the Southern Pacific.

**SPOKANE INTERNATIONAL.—Temporary directors appointed.**—Five temporary directors, to serve until the stockholders elect a new set of directors after the transfer of assets for the reorganization has been completed, have been designated by the reorganization committee and approved by Federal Judge Lloyd L. Black of Tacoma, Wash. The temporary directors appointed are: E. S. McPherson, trustee, general manager and traffic manager of the Spokane International; Kinsey M. Robinson, A. E. Russell and N. A. Telyea, all of Spokane, Wash.; and E. D. Scruggs, New York.

**SPOKANE, PORTLAND & SEATTLE.—Operation by the Oregon Electric.**—The Oregon Electric has been authorized by Division 4 of the Interstate Commerce Commission to operate, under trackage rights, over that part of the line of the Southern Pacific between Beaverton, Oreg., and Greenburg, 3.5 miles.

**TEXAS & PACIFIC.—Abandonment.**—Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed its request in Finance Docket No. 13392 for authority to abandon a line extending from Melville, La., to Simmesport.

**UNION PACIFIC.—Equipment Trust Cer-**

**tificates.**—This road has applied to the Interstate Commerce Commission for authority to issue \$13,250,000 of 1½ per cent equipment trust certificates, series G, to finance in part the acquisition of equipment which will cost approximately \$16,562,500. The equipment includes 2,000 steel box cars to be built in U. P. shops, and the following to be acquired from builders: 20 4-6-6-4 locomotives, 30 mixed chair cars, 30 baggage cars, 10 mail-baggage cars, 100 cabooses. The certificates for which competitive bids have been invited on or before October 8, will mature \$1,325,000 on each October 1 from 1942 to 1951.

**VISALIA ELECTRIC.—Deficit Status.**—Division 4 of the Interstate Commerce Commission has found that this company did not sustain a decrease in its net railway operating income while under private operation in the Federal control period and is not entitled to the benefits of section 204 of the Transportation Act of 1920, as amended January 7, 1941.

**WEATHERFORD, MINERAL WELLS & NORTHWESTERN.—Abandonment.**—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon that portion of its line extending from Mineral Wells, Tex., northerly to Salesville, 7.5 miles.

**WESTERN PACIFIC.—Extension of Loan and Certificates of Indebtedness.**—This company has asked the Interstate Commerce Commission to approve a plan whereby it would have the Reconstruction Finance Corporation extend the maturity date of a \$9,850,000 loan from that agency from December 1, 1941, to December 1, 1942, with interest at four per cent. At the same time a like amount of certificates of indebtedness issued as collateral for the loan would also be extended for a similar period.

**WICHITA UNION TERMINAL.—Bonds.**—This company has asked authority from the Interstate Commerce Commission to issue and sell \$2,100,000 of first mortgage serial bonds, the proceeds to be used to redeem a like amount of first mortgage bonds due November 1. Details of the sale of the bonds, which is subject to I. C. C. approval, were given in the *Railway Age* of September 20, page 467. There are \$2,300,000 of bonds now in the hands of the public. The company proposes to cancel the old bonds, retiring by cash payment \$200,000 worth of bonds, and issuing new serial bonds for the remaining \$2,100,000.

### Average Prices of Stocks and Bonds

	Sept. 30	Last week	Last year
Average price of 20 representative railway stocks...	29.53	29.74	30.40
Average price of 20 representative railway bonds...	63.65	63.55	60.58

### Dividends Declared

Atchison, Topeka & Santa Fe.—\$1.00, payable December 1 to holders of record October 31.  
Norfolk & Western.—Adjustment Preferred, \$1.00, quarterly, payable November 19 to holders of record October 31.  
Reading Company.—25¢, quarterly, payable November 13 to holders of record October 16.

## Railway Officers

### EXECUTIVE

**R. P. Woodman**, whose appointment as assistant to vice-president of the Eastern departments of the Railway Express



**R. P. Woodman**

Agency at New York was reported in the *Railway Age* of September 6, entered the express service at New York in 1905. After holding positions in the claim department and the assistant general manager's office, he became assistant traveling agent. He was appointed clerk in the general manager's office at Boston, Mass., in 1916, becoming chief clerk in 1920. He became superintendent of the Massachusetts-Northern New England division at Boston in July, 1936, and a year later he was appointed superintendent of organization at New York, the position he held until his recent appointment.

**C. J. Jump**, special representative in the accounting department of the Railway Express Agency at New York, has been promoted to assistant to vice-president, accounting. Mr. Jump started in the express service in 1910 as typist-clerk in the Cin-



**C. J. Jump**

cinnati, Ohio, accounting department and in 1914 he became secretary. In July, 1918, he was appointed chief clerk to the

auditor and in April, 1919, when the Cincinnati and Philadelphia, Pa., accounting offices were consolidated, Mr. Jump became chief clerk to the general auditor at Philadelphia. Three years later he became auditor of disbursements at Philadelphia and in January, 1923, he was appointed chief clerk to the general auditor at New York. In May, 1935, Mr. Jump became special representative in the accounting department at New York, the position he held until his recent appointment.

**Roy Barton White**, president of the Baltimore & Ohio, has been elected also president of the Alton, succeeding **Daniel Willard**, chairman of the board and president, who continues as a director and chairman of the board. Photographs and biographies of Mr. Willard and Mr. White were published in the *Railway Age* of May 3, following the announcement that Mr. White had been elected president of the B. & O., succeeding Mr. Willard.

**C. J. Leary**, whose appointment as assistant to vice-president of the Eastern departments of the Railway Express Agency at New York, was reported in the *Railway Age* of September 6, began express service in 1906 as a clerk in New York, later being transferred to Boston, Mass. In 1913 he was appointed chief clerk at Washington, D. C., and two years



**C. J. Leary**

later became traveling agent at Reading, Pa. Going to Philadelphia, Pa., Mr. Leary served there as chief clerk to the assistant general manager, the city manager and the general manager, successively. In 1931 he became superintendent of the Reading-Chesapeake division. For a year he was special representative at Philadelphia, until his promotion to superintendent of the Office division at New York. In June, 1937, Mr. Leary was transferred to the Southern New England division at Providence, R. I., the position he held until his recent appointment as assistant to vice-president.

**Joseph J. Byrne**, vice-president in charge of traffic of the Delaware, Lackawanna & Western, with headquarters at New York, whose retirement on September 30 was reported in the *Railway Age* of September 27, has had 54 years of continuous railroad service. Mr. Byrne was born at Riley, Ohio, in 1871 and entered

railroad service in 1887 as a telegraph operator with the Cleveland, Cincinnati, Chicago & St. Louis (New York Central), later becoming traffic agent for that road. In 1892 he became contracting agent for



**Joseph J. Byrne**

the Nickel Plate Fast Freight Lines at Indianapolis, Ind. Mr. Byrne entered the service of the Lackawanna in 1897 as commercial agent at Indianapolis, being transferred to Cleveland, Ohio, in 1901. In 1905 he was promoted to division freight agent at Syracuse, N. Y., and in 1909 became general Eastern freight agent at New York. In 1918 he became assistant general freight agent and the following year was promoted to general freight agent. Mr. Byrne was appointed assistant freight traffic manager in 1920, freight traffic manager in 1926, and general freight traffic manager in 1929. He became vice-president in charge of traffic on May 1, 1935.

**Robert C. White**, assistant general manager on the Missouri Pacific, with headquarters at St. Louis, Mo., has been promoted to chief operating officer, effective October 1, with the same headquarters, succeeding the late **John Cannon**, whose death on September 14 was reported in the *Railway Age* of September 20. Mr. White was born at Bertrand, Mo., on February 8, 1881, and attended South-



**Robert C. White**

east Missouri Teacher's College, Missouri University and the United States Military Academy. He entered railway service in

1905 as an assistant on the engineering corps of the Missouri Pacific at St. Louis, and in 1906 he was promoted to assistant division engineer at Sedalia, Mo. In 1907 and 1908 he served as roadmaster on various divisions, and from 1908 to 1912 he served as division engineer on various divisions. In 1913 Mr. White was advanced to district engineer, with headquarters at Little Rock, Ark., and in 1917 he was promoted to superintendent of the Memphis division. From July, 1917, to November, 1917, he served as engineer of construction for the War Department on the construction of Camp Pike, Ark., and during the period of federal control of the railroads he served as assistant chief engineer of the Missouri Pacific. In January, 1921, he was promoted to general superintendent of the Eastern district, with headquarters at St. Louis, and in 1924, he was appointed engineer of maintenance of way and structures for the system. In March, 1925, Mr. White was appointed assistant general manager, which position he held until his recent promotion.

**George G. Haines**, assistant superintendent of the Philadelphia, Bethlehem & New England, with headquarters at Bethlehem, Pa., has been elected vice-president and general manager of the Cornwall railroad, with headquarters at Lebanon, Pa., effective October 1, succeeding **Harry B. Royer**, who resigned to become vice-president and general superintendent of the South Buffalo railway, with headquarters at Lackawanna, N. Y. Mr. Royer succeeds **J. W. St. Clair**, whose death on August 26 was reported in the *Railway Age* of September 6.

Mr. Haines was born at Cleveland, Ohio, and was graduated from the University of Pennsylvania in 1922. He entered railroad service with the Atchison, Topeka & Santa Fe at Topeka, Kan., later serving with the Philadelphia, Bethlehem & New England as supervisor of track and general yardmaster. He became assistant superintendent of the latter road in December, 1939.

Mr. Royer was graduated from Pennsylvania Business College in 1905 and worked as a telegraph operator, agent and towerman, successively, for the Reading. He then served as assistant superintendent in the transportation department of the Steelton & Highspire railroad at Steelton, Pa., for 14 years, after which time he was vice-president of that road for 10 years. On June 21, 1940, Mr. Royer became vice-president and general manager of the Cornwall railroad, the position he held until his recent election.

### FINANCIAL, LEGAL AND ACCOUNTING

**J. V. McLaughlin**, auditor of disbursements for the Railway Express Agency, Inc., at Chattanooga, Tenn., has been appointed general auditor of the regional accounting department at Chattanooga, succeeding **H. M. Sowle**, deceased.

**W. Scott Ure**, whose promotion to assistant general auditor on the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of September 20, was born at Salt Lake City,

Utah, on September 23, 1888, and entered railway service on July 14, 1905, on the Oregon Short Line (now part of the Union Pacific system) at Salt Lake City, serving in various clerical positions in the passenger and freight accounting departments. In June, 1916, he was promoted to special accountant and on March 1, 1920, he was advanced to auditor of miscellaneous accounts. On April 1, 1930, Mr. Ure was promoted to assistant treasurer of the O. S. L. and on January 19, 1936, he was transferred to Omaha as auditor of station accounts for the Union Pacific system. On April 24, 1939, he was appointed assistant treasurer, with headquarters at Omaha, the position he held until his recent promotion, effective September 16.

**Bert Vickery**, whose election as treasurer and assistant secretary of the Chicago, Burlington & Quincy, and assistant treasurer and assistant secretary of the Colorado & Southern and the Ft. Worth & Denver City, with headquarters at Chicago, was reported in the *Railway Age* of September 27, was born in Yeovil, England, on October 20, 1888, and entered railway service on December 1, 1902, as an office boy in the accounting department



Bert Vickery

of the Burlington at Chicago, later serving in various clerical capacities. In February, 1910, he was transferred to the treasury department and in November, 1911, he was advanced to chief clerk to the cashier. Mr. Vickery was promoted to assistant paymaster in 1918 and in 1921 he was advanced to assistant cashier. In January, 1922, he was transferred to Omaha, Neb., as cashier and paymaster and in May, 1932, he was elected assistant treasurer, with the same headquarters. He was transferred to Chicago on January 1, 1941, and he continued as assistant treasurer until his recent appointment, effective October 1.

**Arthur E. Callin**, whose promotion to assistant general auditor on the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of September 20, was born at Shakespeare, Ont., on December 4, 1881, and attended a business college in Canada. He entered railway service in February, 1909, as a clerk in the statistical bureau of the Union Pacific at Omaha, later being advanced successively to head clerk of that bureau,

office accountant in the office of the auditor of disbursements and chief clerk of the latter office. From May, 1919, to August, 1922, Mr. Callin served with the account-



Arthur E. Callin

ing division of the U. S. Railroad Administration as accountant in charge of the examination of accounts on various railroads, returning to the Union Pacific on the latter date as accountant on the staff of the general auditor at Omaha, the position he held until his recent promotion.

### OPERATING

**J. R. DePriest** has been appointed superintendent telegraph and signals of the Seaboard Air Line, with headquarters at Norfolk, Va., succeeding **F. H. Bagley**, whose death on August 29 was reported in the *Railway Age* of September 13.

**F. E. Bulash**, of the general manager's office of the Chicago & North Western, has been promoted to supervisor of freight service, with headquarters as before at Chicago, succeeding **Joseph D. Wills**, who has retired after 40 years of service.

**Charles C. Foster**, yardmaster of the Waverly yard of the Pennsylvania at Newark, N. J., since 1917, has been promoted to assistant freight trainmaster of the New York division. **James T. Flaherty**, yardmaster of the Sunnyside yard, Long Island City, since 1925, has been promoted to assistant passenger trainmaster of the New York division.

**I. M. Norwood**, assistant trainmaster on the Illinois Central at Vicksburg, Miss., has been promoted to trainmaster at Jackson, Miss., succeeding **L. F. Powell**, who has been appointed trainmaster at LaSalle, Ill., a newly created position. **C. A. Knight** has been appointed trainmaster at Baton Rouge, La., relieving **W. K. McKay**, who has been appointed trainmaster at Jackson, Tenn., also a newly created position.

**Clark T. Williamson**, general manager of the Eastern departments of the Railway Express Agency at Buffalo, N. Y., whose retirement on August 31 was reported in the *Railway Age* of September 6, was born on July 4, 1873, in Ohio. He began his career in 1890 with the United States Express Company as stable boy, at Sandusky,



## Can handle increased loads on decreased schedules

Not only are carloadings on the upturn but in many instances railroads are finding it necessary to cut scheduled running time. The only power capable of handling heavier carloadings while cutting running time is MODERN SUPER POWER. Lima Locomotive Works, with years of experience in designing and building locomotives that have proved their ability to meet these requirements, is prepared to build you a fleet of the latest in super-powered steam locomotives.

LIMA LOCOMOTIVE WORKS,



INCORPORATED, LIMA, OHIO

Ohio, serving successively until 1914 as clerk, route agent, messenger, superintendent and general superintendent. From



**Clark T. Williamson**

1914 to 1919 Mr. Williamson served as superintendent for the American Express Company at Philadelphia and general manager of the American Railway Express at New York, being transferred to Newark, N. J., in 1919, and to Buffalo in 1920, continuing there when the Railway Express Agency was formed in 1929.

**W. Gordon White**, whose appointment as superintendent of the Philadelphia division of the Railway Express Agency at Philadelphia, Pa., was reported in the *Railway Age* of September 6, began his express service in 1903 at Norfolk, Va., where he remained for five years. He then went to Baltimore, Md., and Richmond, Va., successively, becoming chief clerk to the general manager at Philadelphia in August, 1915. Two years later he became assistant to vice-president and general manager there and in September, 1918, he was appointed assistant to general manager of transportation, Eastern departments, at New York, which position he held for 17 years. In



**W. Gordon White**

April, 1935, Mr. White was assigned to the office of the vice-president for special work, continuing there until December, 1936, when he became superintendent of organization, Eastern departments, New York. In January, 1939, Mr. White became assistant to vice-president, Eastern

departments, the position he held until his recent appointment.

**William Parker Libbey, Jr.**, whose appointment as transportation assistant of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of September 27, was born on April 7, 1909, at Melrose, Mass. He entered railroad service with the New Haven on August 29, 1932, as work train laborer, New Haven division, maintenance of way department, and on October 10, 1932, he was promoted to rail inspector. On March 1, 1933, he was appointed laborer at Poughkeepsie, N. Y., and on July 11, 1933, he became agent for the New York, Westchester & Boston (New Haven subsidiary, now abandoned). Mr. Libbey became clerk in the assistant to general manager's office of the New Haven at New Haven on November 11, 1933, being appointed statistical clerk on July 30, 1934. On July 16, 1936, he became joint facility clerk at New Haven and on May 10, 1937, he was appointed assistant train-



**William Parker Libbey, Jr.**

master of the Boston division, being promoted to trainmaster, Harlem River, New York, on April 30, 1939. Mr. Libbey became superintendent of car service at New Haven on December 1, 1940, the position he held until his recent appointment.

**Perry Monroe Shoemaker**, transportation assistant to president of the Delaware, Lackawanna & Western, with headquarters at New York, has been appointed superintendent of the Morris & Essex division, with headquarters at Hoboken, N. J., to succeed **J. H. Lerbs**, who has been transferred to the Buffalo division at Buffalo, N. Y. Mr. Lerbs succeeds **G. D. Kennedy**, who has been appointed trainmaster of the Bangor and Portland branch of the Morris and Essex division at Bangor, Pa.

Mr. Shoemaker was born at Elmira, N. Y., on July 15, 1906, and was graduated from the University of Michigan with a bachelor of science degree in 1928. Subsequently he was awarded a Strathcona Fellowship in the school of transportation and engineering of Yale University, by which he was awarded the degree of master of science. While studying at the University of Michigan, Mr. Shoemaker

was employed during the summers of 1926 and 1927 as a track laborer by the Pennsylvania. Following graduation he served



**Perry Monroe Shoemaker**

as dynamometer assistant on the Erie. From 1929 to 1932 he was freight checker, terminal yardmaster and general yardmaster of the Erie. He entered the service of the New York, New Haven & Hartford in 1934 as research assistant, subsequently becoming superintendent of transportation, which position he held until his appointment as transportation assistant of the Lackawanna on June 1, 1941. Mr. Shoemaker has recently been elected president of the American Association of Railroad Superintendents.

**Charles Benton**, whose appointment as superintendent of organization of the Railway Express Agency at New York, was reported in the *Railway Age* of September 6, began his express career at New York as extra clerk in July, 1906. He later served at Newark, N. J., as tracing clerk, abstract clerk, statement clerk, money clerk and assistant cashier, successively. For a short period he was clerk and cashier at Scranton, Pa., returning to New Jersey as agent



**Charles Benton**

at Montclair. He then became assistant route agent at Wilkes-Barre, Pa., and route agent at Wilkes-Barre, Pa., and route agent at Hazleton, Pa., and in 1910 he was appointed assistant master of terminals at Communipaw, N. J., later becoming agent at Hoboken. In 1914 Mr. Benton became

special representative at New York; then assistant agent at Erie terminal, Jersey City; agent at Communipaw and general agent at Brooklyn, N. Y. At the time of consolidation in 1918 he was appointed to special work at New York and later became terminal agent at Jersey City. In 1920 he became special representative at Buffalo, N. Y., and in 1923, general agent at Utica, N. Y., being transferred to Albany, N. Y., in 1928. Mr. Benton was appointed special representative at Philadelphia, in 1934 and in February, 1940, he was appointed superintendent of the Eastern New York division at Albany, the position he held until his recent appointment.

**James P. Downey**, whose appointment as superintendent of organization, vice-president's office, Railway Express Agency, New York, was reported in the *Railway Age* of September 6, began his express career in 1911 at Sharon station, N. Y. Five years later he became clerk at White Plains, N. Y., shortly afterward becoming agent at Lake Mahopac, N. Y. After two years service in the United States Army, Mr. Downey returned to the latter position. Following service at Millerton and Mt. Kisco, N. Y., he became clerk in the superintendent's office at Albany, N. Y., then serving as agent at Canajoharie, N. Y., for a time before returning to Albany. In November, 1920, Mr. Downey became special representative at Sayre, Pa., and in 1923 he was appointed route agent at Allentown, Pa., subsequently becoming chief clerk to the superintendent at Scranton, Pa. In 1937 he became assistant chief clerk to the vice-president at New York and in May of the same year he was appointed chief clerk in the president's office. In March, 1939, Mr. Downey became superintendent of the Susquehanna division at Scranton, where he served until October, 1940, when he was



James P. Downey

transferred to the Buffalo-Erie division at Buffalo, N. Y., the position he held until his recent appointment.

**Frederick Whittemore**, assistant to the superintendent of transportation of the Nashville, Chattanooga & St. Louis, has been promoted to superintendent of transportation, with headquarters as before at Nashville, Tenn., succeeding **Edward**

**M. Wrenne**, who retired on October 1. The position of assistant to the superintendent of transportation has been abolished.

Mr. Whittemore was born near Wartace, Tenn., on July 12, 1893, and entered railway service on May 1, 1909, on the N. C. & St. L. as a clerk in the purchasing department at the Nashville shops. In 1910 he was transferred to the general offices as a clerk and secretary. In 1915 he became secretary to the general manager and a short time later he was advanced to chief clerk to the general manager. In 1918 Mr. Whittemore was promoted to superintendent of safety and insurance, and from 1920 to 1926 he was also in charge of the freight claim prevention bureau. On May 1, 1928, he was appointed assistant to the superintendent of transportation, which position he held until his recent promotion. Mr. Whittemore has been active in the Association of American Railroads, particularly in the freight claim prevention and safety bureaus, and has served as chairman of various com-



Frederick Whittemore

mittees. He was the first secretary of the Railroad section of the National Safety Council.

Mr. Wrenne entered railway service on October 1, 1889, as a yard clerk on the N. C. & St. L. at Nashville, and later served as secretary to the superintendent, as stationmaster, secretary to the superintendent of transportation, and assistant to the superintendent of transportation. In August, 1915, he was appointed acting superintendent of transportation, and in December, 1915, he was promoted to superintendent of transportation, which position he held until his retirement.

**J. L. Barngrove, Jr.**, whose appointment as superintendent of car service of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of September 27, was born on October 9, 1906, at St. Louis, Mo., and was graduated from Washington University in that city in 1929 with an A.B. degree. He was a Strathcona Fellow in transportation in the Graduate School of Yale University, receiving a degree of M. S. in transportation in 1932. Mr. Barngrove entered railroad service in 1925 in the engineering department of the St. Louis-San Francisco as a chainman at Fort

Smith, Ark., continuing this work during the summers of the years he attended Washington University. After graduation in 1929



J. L. Barngrove, Jr.

he continued with the St. Louis-San Francisco in the accounting department where he was a rate clerk and held various other positions at freight stations, etc., remaining with that road until 1931. After graduation from Yale in 1932 Mr. Barngrove entered the traffic department of the St. Louis Southwestern at St. Louis as a traffic agent. In the summer of 1933 Mr. Barngrove entered the employ of the New York, New Haven & Hartford, being in the operating department for the first year and a half and since that time with the research department. As research assistant with the New Haven his work has been on operating and traffic studies made jointly with the operating and traffic departments. A considerable portion of his work has been in connection with studies of truck competition, particularly on merchandise traffic.

**William F. Kirk**, general superintendent of transportation of the Missouri Pacific, has been promoted to assistant general manager, with headquarters as before at St. Louis, Mo., succeeding **Robert C. White**, whose promotion to chief operating officer is reported elsewhere in these columns. **Earl Sullivan**, superintendent of the Palestine-San Antonio divisions of the International-Great Northern (part of the Missouri Pacific Lines), with headquarters at Palestine, Tex., has been advanced to general superintendent of transportation at St. Louis, relieving Mr. Kirk.

Mr. Kirk was born at Osage City, Kan., on August 19, 1881, and entered railway service in November, 1897, as a messenger on the Atchison, Topeka and Santa Fe, later serving as a trackman on that road. From November, 1899, to February, 1900, he was with the Wells-Fargo Express Company as a messenger, then going with the Pecos Valley (now part of the A. T. & S. F.) as a telegrapher. Later in the same year he was advanced to dispatcher, and after a short period in this position he accepted a similar position on the Michigan Central. In April, 1901, Mr. Kirk entered the service of the Missouri Pacific as a telegrapher and was advanced successively through the positions of dis-

Continued on second left-hand page

# 140

# SECURITY CIRCULATORS



One of the twenty new 4-8-8-4 type Mallets being delivered to the Union Pacific by the American Locomotive Company. Each of these locomotive has seven Security Circulators installed in the firebox.

**T**HE problem of supporting the unusually long brick arches of these 20 new high-speed, heavy-duty Mallets now being delivered to the Union Pacific by the American Locomotive Company has been effectively solved by the installation of seven Security Circulators in the firebox of each locomotive.

The Security Circulator, which is a development of the American Arch Company, achieves other benefits in addition to its original object of supporting this unusually long brick arch. Honeycombing, flue plugging and cinder cutting are reduced and the circulation in the side water legs is improved. In addition to these factors, that reduce the maintenance of the boiler, the Security Circulator itself is extremely low in maintenance costs.

## AMERICAN ARCH

*Security Circulator Division*

# Provide better combustion

*In the 20 New*

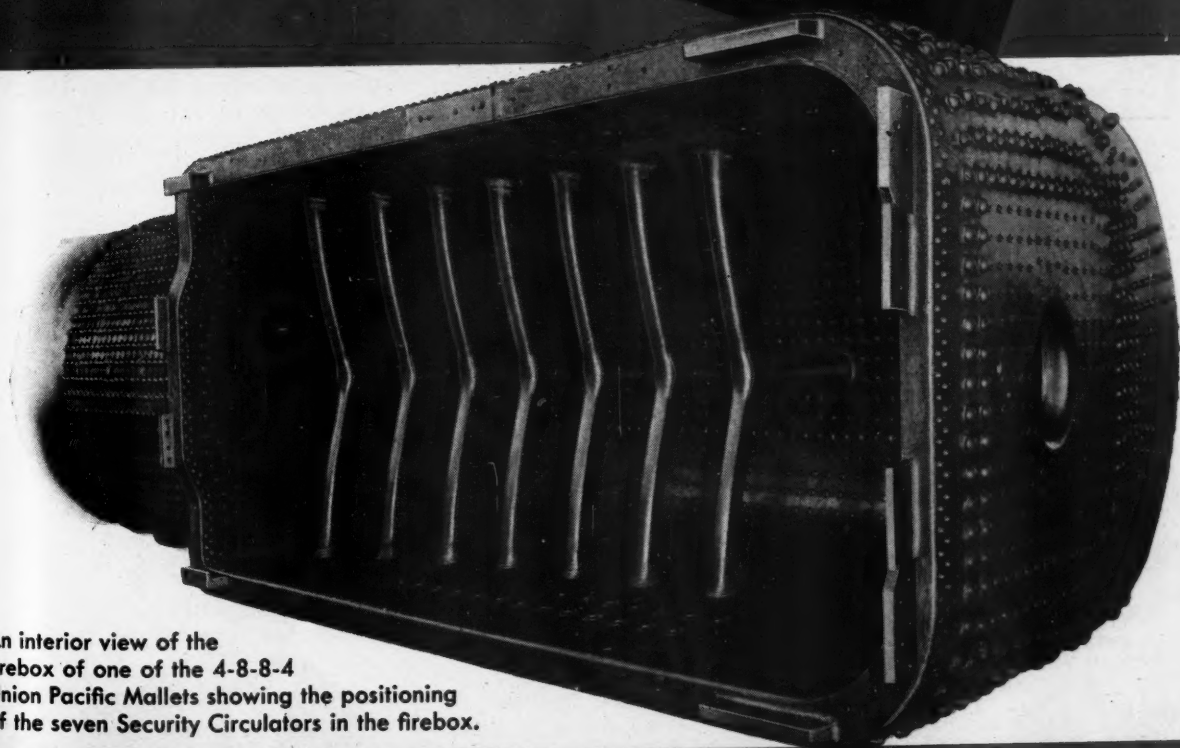
**UNION  
PACIFIC  
4-8-8-4's**

Improved Arch Support for  
the largest fireboxes

★  
Adapted to any type of  
locomotive

★  
Reduced honeycombing, flue  
plugging and cinder cutting

★  
Improved circulation in side  
water legs



An interior view of the  
firebox of one of the 4-8-8-4  
Union Pacific Mallets showing the positioning  
of the seven Security Circulators in the firebox.

## COMPANY, INC.

NEW YORK

CHICAGO

patcher, chief dispatcher, trainmaster, assistant superintendent and assistant to the general superintendent of transportation. In December, 1917, he was appointed acting



**William F. Kirk**

superintendent of the Wichita division, and in the following year he was made superintendent of the Central division, later being transferred to the Omaha division. In June, 1924, he was further advanced to general superintendent of the Western Lines, with headquarters at Kansas City, Mo., which position he held until 1934, when he was appointed eastern regional director on the staff of the federal co-ordinator of transportation. In June, 1935, Mr. Kirk returned to the Missouri Pacific as assistant general manager, with headquarters at St. Louis, and in March, 1936, he was appointed general superintendent of transportation. In May, 1941, his jurisdiction was extended to include also the Texas lines of the Missouri Pacific system.

#### TRAFFIC

**William G. Brown**, passenger traffic manager of the Western lines of the Baltimore & Ohio and of the Alton, with headquarters at Chicago, retired on October 1. **Howard E. Simpson**, assistant to the general passenger traffic manager, of the B. & O. at Baltimore, Md., has been pro-



**William G. Brown**

moted to assistant general passenger traffic manager, with the same headquarters, and **John F. Whittington**, general passenger

agent, with headquarters at New York, has been advanced to assistant passenger traffic manager at Chicago, succeeding to the duties of Mr. Brown. **R. E. Coleman**, division passenger agent at Philadelphia, has been promoted to general passenger agent at New York, relieving Mr. Whittington, and **C. R. Van Horn**, division passenger agent at Pittsburgh, Pa., has been transferred to Philadelphia, replacing Mr. Coleman. **H. L. Porter**, division passenger agent at Akron, Ohio, has been transferred to Pittsburgh, succeeding Mr. Van Horn, and **W. R. Welden**, division passenger agent at Toledo, Ohio, has been transferred to Akron, relieving Mr. Porter.

Mr. Brown was born at Portland, Ind., and entered railroad service at Cincinnati, Ohio, in January, 1886, as office boy on the Ohio and Mississippi (now part of the B. & O.). In May of the same year he was made ticket clerk and in November was transferred to the advertising department. In March, 1888, he became rate and division clerk and on November 18, 1890, he was advanced to chief rate clerk. On February 1, 1894, he was promoted to



**Howard E. Simpson**

chief clerk to the assistant general passenger agent, and in 1902 he was made chief clerk to the general passenger agent. Four years later he was advanced to assistant to the general passenger agent at Cincinnati, Ohio, and in 1911 to assistant general passenger agent. In March, 1920, Mr. Brown was promoted to general passenger agent at Chicago, and on February 1, 1934, he was promoted to passenger traffic manager of the Western lines of the B. & O. and of the Alton, with the same headquarters.

Mr. Simpson was born on March 15, 1896, at Jersey City, N. J., and entered the service of the Central of New Jersey in 1912 as clerk, serving in that capacity and in various other positions until November, 1917. From the latter date until May, 1919, he served in the United States Navy, then returning to the Central of New Jersey as purser on the steamer "Sandy Hook," operated by that road. He became rate clerk in 1920 and two years later was appointed city passenger agent at New York. From 1925 to 1926 Mr. Simpson was advertising agent and from January to May of the latter year he served as district passenger agent at Newark, N.

J. From May to July, 1926, he was general eastern passenger agent at New York and on the latter date was appointed assistant general passenger agent at New



**John F. Whittington**

York. He was appointed general eastern passenger agent for the Baltimore in July, 1931, becoming assistant to general passenger traffic manager at Baltimore on October 1, 1936.

Mr. Whittington was born at Baltimore on October 29, 1895, and entered railroad service in the accounting department of the B. & O. at Baltimore in 1912. In March, 1917, he was transferred to the passenger department at Philadelphia, and became traveling passenger agent there in August, 1920. He was promoted to city passenger agent on May 1, 1925, and was advanced to division passenger agent at Washington, D. C., on September 1, 1925. Five years later, he was promoted to assistant general passenger agent at Baltimore, and on February 1, 1934, was appointed general passenger agent at Cincinnati, being transferred to New York City on October 1, 1936.

Mr. Coleman was born at McLean, Ill., on November 13, 1902. He was educated in the public schools and Central High School of Washington, D. C. He began service with the Baltimore & Ohio in 1922 as clerk and stenographer in the passenger



**R. E. Coleman**

department at Washington, D. C. For more than a year he was ticket and information clerk in the consolidated ticket office there and in September, 1923, was

*Continued on next left-hand page*

**THE UNION PACIFIC  
CHOOSSES**



# *Steam*

**. . . for the world's most powerful locomotives now  
being delivered by American Locomotive Company**

The supremacy of the steam locomotive is demonstrated once again by the fact that the Union Pacific chose steam as the type of motive power to be used on the world's largest and most powerful locomotives. The Franklin Railway Supply Company is proud to have played a part in the outfitting of these super-power locomotives with economy and safety devices. These twenty locomotives are an outstanding example of the important strides that are being made in the further development of the steam locomotive.

In economy, maintenance, and power . . . STEAM IS STILL SUPREME!



**FRANKLIN RAILWAY SUPPLY COMPANY, INC.**

NEW YORK  
CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMP. NY, LIMITED, MONTREAL

appointed chief clerk in passenger department. He was appointed consecutively, traveling passenger agent on May 1, 1925, city passenger agent on February 16, 1927, and division passenger agent on February 1, 1934. Mr. Coleman was transferred to Philadelphia on October 1, 1936, where he remained until his recent promotion.

**W. G. Whitsett** has been appointed assistant to general passenger agent of the Atlantic Coast Line, with headquarters at Wilmington, N. C.

**A. E. Brantley** has been appointed freight traffic agent of the Atlanta, Birmingham & Coast, with headquarters at Atlanta, Ga., succeeding **A. C. Hancock**, who has resigned.

**C. W. Hardy**, traveling freight and passenger agent for the Missouri Pacific at Phoenix, Ariz., has been promoted to general agent at that point, succeeding **Harold L. Engel**, whose death on August 28 was reported in the *Railway Age* of September 6.

**O. M. Sandahl**, general freight agent of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., has been promoted to assistant traffic manager, solicitation, with the same headquarters, a newly created position. **C. B. Kerr**, assistant general freight agent, rates and divisions, has been promoted to general freight agent, rates and divisions, with



O. M. Sandahl

headquarters as before at Minneapolis, a change of title, and **J. A. Swanson**, chief of the tariff bureau has been advanced to assistant general freight agent, rates and divisions, also a change of title. **P. W. Muske**, chief clerk in the general traffic department at Minneapolis, has been promoted to assistant general freight agent, with the same headquarters.

Mr. Sandahl was born at Centerville, Iowa, on January 11, 1889, and entered railway service at that point on November 1, 1904, as a telegraph operator for the Iowa Central (now a part of the M. & St. L.). Later he became a telegraph operator for the Des Moines Union at Des Moines, Iowa. On October 1, 1910, he went with the New York Central as a stenographer and solicitor at Des Moines, but left this road in February, 1918, to enter the U. S.

Army. Mr. Sandahl returned to railroad service in December, 1922, when he became a clerk and solicitor for the M. & St. L. in Des Moines. He was subsequently appointed traveling agent at Des Moines; traveling agent at Chicago; general agent at Detroit, Mich.; and general agent at Boston, Mass. On May 1, 1937, he was promoted to assistant general freight agent at Minneapolis, and in May, 1938, he was advanced to general freight agent, which position he held at the time of his recent promotion, effective October 1.

### ENGINEERING & SIGNALING

**L. S. Werthmuller**, assistant signal engineer of the Missouri Pacific, has been promoted to signal engineer, with headquarters as before at St. Louis, Mo., succeeding **Paul Max Gault**, whose death on September 16 was reported in the *Railway Age* of September 20.

**A. B. Stone**, bridge engineer of the Norfolk & Western, with headquarters at Roanoke, Va., has been promoted to assistant chief engineer, with the same headquarters. **W. L. Young**, crossing engineer, has been appointed bridge engineer, to succeed Mr. Stone. **H. F. Smith**, resident engineer, has been appointed crossing engineer, to succeed Mr. Young. **C. W. Noel**, chief clerk, has been promoted to office engineer. The headquarters of all the above are at Roanoke. The position of chief clerk has been discontinued.

**E. L. Gosnell**, principal assistant engineer of the Baltimore & Ohio, has been promoted to assistant chief engineer, with headquarters as before at Baltimore, Md. The positions of assistant chief engineer at Pittsburgh (Pa.) and principal assistant engineer have been abolished. **Richard Mather**, assistant to the chief engineer, with headquarters at Baltimore, has been advanced to engineer of construction, with the same headquarters. **R. E. Kennedy** has been appointed assistant to chief engineer at Baltimore, succeeding Mr. Mather. **W. W. Gwathmey, Jr.**, assistant engineer at Clarksburg, W. Va., has been promoted to district engineer, with headquarters at Baltimore, a newly created position. **K. J. Wagoner**, assistant engineer at Pittsburgh and **J. P. Ray**, assistant engineer at Cincinnati, Ohio, have also been advanced to district engineers, with same headquarters, two newly created positions.

### MECHANICAL

**B. E. Jones**, master mechanic on the Erie at Buffalo, N. Y., has been transferred to Secaucus, N. J., succeeding **C. H. Norton**, retired. **E. Branning** has been appointed master mechanic at Hornell, N. Y., succeeding **E. Pool**, who has been granted a leave of absence. **G. L. Fisher** has been appointed master mechanic at Buffalo, succeeding Mr. Jones.

### PURCHASES AND STORES

**R. W. Carroll**, acting general passenger agent of the Rutland, with headquarters

at Rutland, Vt., has been appointed general passenger agent.

### OBITUARY

**Oliver B. Webb**, assistant to president of the Texas & Pacific, with headquarters at New Orleans, La., died on September 24 in that city.

**Earl Blackburn Russell**, assistant to general manager of the Western lines of the Baltimore & Ohio, with headquarters at Cincinnati, Ohio, died on September 27 at his home in that city at the age of 65.

**Charles H. Kingsbury**, who retired on March 1, 1937, as general western freight agent of the Norfolk & Western, with headquarters at Chicago, died in that city on September 28, after a long illness.

**Raymond G. Eberly**, assistant treasurer of the New York, Chicago & St. Louis, with headquarters at Cleveland, Ohio, died on September 20 at Lakeside hospital, after a brief illness, at the age of 57.

**Charles Frederick Smith**, manager of passenger transportation of the New York Central system, with headquarters at New York, died on September 28 at his home in Tarrytown, N. Y., after a brief illness, at the age of 68.

**Frank A. Bell**, general freight agent on the Atchison, Topeka & Santa Fe, with headquarters at Los Angeles, Cal., died suddenly of a heart attack at his home in Los Angeles on September 28. A biography of Mr. Bell was published in the *Railway Age* of January 18, 1941, following his promotion to general freight agent.

**William J. Griffith**, superintendent of the Kansas City-Northern Kansas division of the Railway Express Agency, with headquarters at Kansas City, Mo., died suddenly on August 30. Mr. Griffith started his 32 years in express service at San Francisco, Cal., as a porter and ten years later he became relief route agent. He then served as route agent at Merced, Cal., and Fresno, successively. During the next decade, Mr. Griffith specialized in special agency work and became an expert in that line. Organization duties at San Francisco preceded his appointment as superintendent at Kansas City in January, 1939, which position he held until his death.

**George H. Crosby**, who retired in 1918 as vice-president, secretary and treasurer of the Chicago, Rock Island & Pacific, with headquarters at Chicago, died on September 29 at his home in that city. Mr. Crosby was born at Lawrence, Mass., on March 27, 1849, and entered railway service in August, 1870, as a rodman on the Pennsylvania & Sodus Bay. In September, 1871, he went with the Chicago & South Western (now part of the Rock Island) and in March, 1872, he went with the Rock Island as a freight and ticket clerk. He later served as a traveling agent, traveling auditor and freight auditor. In June, 1898, he was appointed secretary, and in April, 1903, secretary and treasurer. Mr. Crosby was elected vice-president, secretary and treasurer in December, 1909, which positions he held until his retirement.